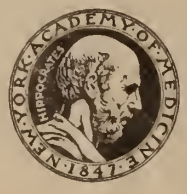
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This is an alphabetical index of articles and discussions arranged by leading words. It contains occasional cross references. Names of authors and men who discussed the papers are also included. Details of society proceedings, including the titles of papers read, officers elected, etc., can be located in proceedings under Societies, Editorials, News of the State, Marriages, Deaths. The subjects of editorials also appear alphabetically and are marked (E).

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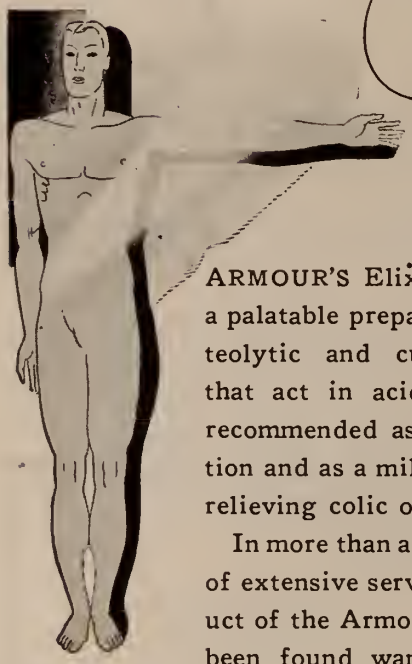
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Illinois Medical Journal

THE OFFICIAL ORGAN OF

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Editorials

NEW YEAR GREETINGS

New Year greetings to be sincere must be a call to arms based on lessons from 1931 havoc.

TO ALL, AN AWAKENED NEW YEAR

The annual wish for A Happy New Year seems farcical in the face of the consequences of the havoc in the wake of the twelve months just ended. Economic upset wages the world around. True the nations so far are alive, albeit many by the very skin of their teeth. So much can not be said for individuals. Material safeguards planned painstakingly against old age and for protection of ultimately surviving dependents have been destroyed, in literally hundreds of thousands of cases, with all the dire devastation of invading vandals. Probably there have been fewer physicians' bills paid than for any corresponding period in the history of civilization. Veiled panic prevails and the most comforting leaven in the whole mess is that the soviet republic seems to be no longer able to hide from the world that its famous "Five Year Plan" is apt to go on the rocks. For the faint of heart and the general calamity howlers this is the one rift in the clouds.

United States government bonds are the surest integer in a sea of fluctuating values in all investments, and the Postal Savings Banks are safe depositories. It is up to the citizenry of the United States to keep them in that condition. We must keep our faith in our government and we must keep the government functioning as a government and not as a maid of all work such as the political jobbers and socialistic grafters would make of it. Day by day the clamor for bureaucratic control increases by the bureaucrats; day by day the tax rate increases to keep them paid. The state of Illinois now adds a state income tax to the already heavy burden imposed by the federal government. Far too much of this revenue goes to keep up the

payrolls of political employes WHO ARE ALL EXEMPT FROM TAXATION.

Now, if only the state could devise a way of producing incomes upon which to pay more taxes, many of us would heave a rare sigh of relief.

What are we going to do about it? That is the keynote for the secret of a happy new year, the pivot upon which any felicity must come. It is high time that the medical profession paused. drew breath and not only by societies but BY INDIVIDUALS, straightened up, learned the true state of conditions, and LEARNED ENOUGH ABOUT ITSELF AND THEMSELVES TO BE ABLE TO REALIZE THE NEED OF THE TIMES AND THE RELATIONSHIP BETWEEN THESE NEEDS AND THEIR OWN CAPACITIES. In so far as the proletariat is concerned, Russia seems in a way about to accomplish the essential task of "getting next to herself." Colloquialized from the sage old advice of that pioneer physician that bids man "Know Thyself," the phrase is as good as any yet devised for the civilization of man. And perhaps, rather than to wish a constituency a "Happy New Year" the most felicitous desire that might be expressed would dwell in the counsel of "Get next to yourself, get next, and do it the whole year long."

More succinctly than any other group of modern life, should the doctor, both as a member of the profession and as an individual realize that without knowledge, progress is dangerous.

The southern slave, given his freedom but lacking education is still struggling to find the way out. Russia met the same situation, and is finding her freedom a curse rather than a blessing. Aptly indeed may it be said that what Russia needs is more soap and fewer soap boxes; just as admittedly she needs less bureaucracy and more freedom. For after all the Russian people merely exchanged one despot for a group; czarist oppression for bureaucratic suppression and suffocation.

Last year we preached our New Year sermon on the necessity for organization of the medical profession and for such an application of this organization to the general conduct of American life as would tend to use the medical profession as a barrier against the oncoming sweep of communism rather than its paltry catspaw.

Today while emphasizing the necessity for this active organization and as never before, a new element makes itself important in the picture.

When if ever before has the question of medical economics been so drastically brought home to even the wealthiest of physicians. Often have doctors heard the opinion expressed that the majority of doctors with wealth at their command have either *"been born with it, married it, or made it through contacts outside of the profession."*

If a roll call might be made of those doctors with wealth at their command this time a year ago how many could today answer honestly?

It is not the purpose of this editorial to make arraignment or lay blame. Relieve the patient first, find the source of contagion later. That is good therapy.

We have all of us seen our most gilt-edged securities at least tarnish, and in far too many cases reveal their base nature since "All is not gold that glitters." There is one exception.

And so, the Illinois Medical Journal wishes all its patrons, the profession and every other good citizen an awakened new year.

Roused to the needs of an hour, the American nation has never failed to meet it. These are stirring times; hours for enthusiasm, not despair. Where there are wrongs to be redressed, and the fallen and hurt to be raised and made well there is always hope. Too much sunshine, too much shelter breeds a jungle where sprout and fester a million miasmas and deadly ills, and where the wisest of men grow enervated and laissez-faire. There are cold winds blowing upon us now, and for only too many the blasts of adversity hide all the sun.

It is bitter to see the savings of a lifetime swept away, to see women and children hungry and cold because their natural protectors are caught in the mesh of unemployment that followed at the heels of a brief and false prosperity. But it is sweet to know that the ruin is but temporary. The state remains and it is up to us to keep it so; to gird on the sword and to resume the fight. For we will have to fight, both for the awakened new year and for the continuance of ideals and conditions of a rarity and a perfection and a value with which too much

familiarity on our part has begotten a brief blindness in our eyes. The poorest man in the United States, the most oppressed and restricted knows more of wealth and comfort and freedom than the very highest in scores of other countries. Shall this treasure be lost because we are too dull to realize both what we hold and what we are? The most lethargic will shout a lusty "NO."

All that is needed for a happy ending to these days of past stress is a happy awakening and so again, let us not only wish for, but proceed to spread the gospel of an awakened New Year.

EVERY PHYSICIAN IN ILLINOIS SHOULD BELONG TO THE STATE SOCIETY. THE LOCAL MEDICAL SOCIETY IS THE BULWARK OF THE PHYSICIAN

Doctor, read carefully and learn what you receive from membership in the Illinois State Medical Society.

Money spent in dues for a state or local medical society is one of the safest, surest investments a physician can make.

For the nominal dues of approximately $10.00 a man gets medico-legal protection and his fellowship in the society of his confreres as well as eligibility to membership in the American Medical Association.

The dues vary in the respective counties, from $7.00 down state to $15.00 in Cook County per year depending upon the local activities of the county society in which you reside. Illustrative of the benefits secured from such affiliation rate the following:

1. For approximately $10.00 per year you get medico-legal protection; membership in your County and Illinois State Medical Societies and the Illinois Medical Journal. Membership in the above makes you eligible also to fellowship in the American Medical Association. Affiliation and Association with this large representative body of men is of great value and importance to every physician.

2. Medical Defense. Out of your annual dues paid, the trustees of the State Medical Society are required to turn $1.50 over to the "medical defense committee" for the protection and defense of members of the society against whom suits for malpractice or damages may be brought. For years the Illinois State Medical Society has been meeting all expenses of such litigation—that is, court costs, attorney's fees, costs of appeals, witness fees, the cost of record —no limitation being placed on this sort of expense of an individual case.

This means that if you become a member of the Illinois State Medical Society you will be defended in every effective manner possible against suits for damages for alleged malpractice, as well as attempted blackmail. This one feature alone is worth many times the cost of membership. Private defense companies are charging $20.00 to $75.00 per year and upwards for the defense and indemnity.

Medical Legislation. Also $1.00 is set aside for a fund to be used by the Public Relations Committee for the purpose of combating vicious legislation.

Members of the Illinois State Medical Society are also eligible to membership in any or all of the various affiliated special medical societies in Illinois.

3. Membership in the Illinois State Medical Society. All members of any county Medical Society are ipso facto members of the Illinois State Medical Society and will receive all publications of the State Society without any additional fees, dues or subscriptions.

Memberships in the state and local society are necessary before you can affiliate with the reputable, professional societies of the country and the American Medical Association. In some states a year's membership in the local society is required before they can secure a license by examination or reciprocity.

4. The Journal of the Illinois State Medical Society. This Journal, owned and published monthly by the medical profession of Illinois, is sent free to each member. The official organ of the Illinois State Medical Society, one of the largest and most influential state organizations in the country, it is among the most comprehensive state medical journals both in point of circulation and editorial scope. It ranks highly, both in size and in influence with all medical journals. *Further, in the fight against economic evils oppressing the medical profession, the* Illinois Medical Journal *has been not only a leader, but ever a pioneer.* In the Journal is printed the proceedings of the Illinois State

Medical Society; the papers presented at the Tri-State District Medical Society (Illinois, Iowa, Wisconsin, and Minnesota) and the Chicago Medical Society, which is the largest local medical society in the world. The Chicago Medical Society meets every week, and it has fifteen branches, proceedings of which also are printed in the ILLINOIS MEDICAL JOURNAL, as well as of eleven affiliated societies, namely; Gynecological, Pathological, Ophthalmological, Surgical, Urological, Laryngological and Otological; Orthopedic, Pediatric, Neurological, Roentgen Ray, Medical Legal. On the programs of these various societies appear from time to time a great many of the most eminent men of America and Europe. In the Journal also is published the papers read and the reports of all meetings of the respective county society meetings throughout the state, as well as all the news of interest to medical men in Illinois and throughout the United States. The price of the Journal for non-members is $3.00 per year. It is sent to all members of the Illinois State Medical Society, as one of the perquisites of membership.

5. Reformation of Medical Conditions. Many reforms are being carried on which in previous years were impossible. A few years ago the Medical Legislation Committee of the Illinois State Medical Society succeeded in having passed by the Illinois State Legislature what is considered the best medical practice act in the United States. This Society has a representative as chairman of this committee in Springfield, and the committee is working to the good advantage of medicine in this State. The committee is receiving financial support from the State Medical Society as necessity requires. Every year different cults and branches of so-called medicine try to have special laws passed which will license them through examinations which do not conform to the medical practice act. It is only through large membership, financial and moral support that this type of legislation can be controlled.

Abuse of medical charities, illegitimate and unethical methods of practice, and all the other evils which have embarrassed the physician and reduced his income can only be successfully handled by a well organized and compact profession, able to take a positive stand on these matters and to carry out its decisions. There is in view (under thorough organization), relief from many of our present difficulties. There never will be devised a patent mechanism which will relieve the doctor of participations in our political activities. Physicians must govern themselves or they will be misgoverned.

6. Eligibility to Fellowship in the American Medical Association. The only way in which a physician can become a member of the State or National organization is through the local society of the County in which he lives. The advantages and privileges to be gained through membership in this great association need not be enlarged upon. Fellowship in the American Medical Association includes The Journal of the American Medical Association, the greatest weekly medical journal published in the United States.

7. Regulations of Pharmaceutical Preparations. The American Medical Association has established a committee, known as the Council on Pharmacy and Chemistry, for the purpose of examining, analyzing and reporting from time to time, to the profession its findings on the most important proprietary preparations, such as the general practitioner is constantly being importuned to buy and prescribe for his patients. This movement, which is of vital importance to every practicing physician, deserves the support of all members of the profession, regardless of society affiliations. By becoming a member of your local society you will come more closely in touch with organized and systematic efforts for the uplift and benefit of the profession at large.

8. The Completion of Medical Organization in Illinois. The Illinois State Medical Society, today, comprises three-fourths of the reputable members in the State. It is to the interest of every physician in Illinois to complete and strengthen this organized and concerted movement on the part of the profession for the betterment of local conditions. The suppression of quackery, the prevention of enactment of vicious legislation, and the consummation of other needed reforms can only be accomplished by complete and thorough organization and unanimity on the part of the profession of the State. In this work the support and cooperation of every reputable physician is requested.

The welfare of your profession depends upon the support you give it. A well organized pro-

fession means greater respect and better compensation.

The Illinois State Medical Society desires your support and cooperation. Go to the next meeting of your local or county society and meet the other physicians of your neighborhood. Ask one of the officers of the society for an application blank, fill out the blank, either send or better hand it to the President or Secretary together with the fee for membership in your county society and thus secure membership in the organized profession of the state and participate in the benefits and privileges of medical organization.

Qualifications for Membership—Every registered physician residing in any county, who is of good moral and professional standing and who does not claim to practice any exclusive system of medicine, shall be eligible for membership.

YOUR STATE AND COUNTY MEDICAL SOCIETY GIVE UNAPPROACHABLE ECONOMIC SERVICE

Organized medicine, as vested in your county and state society provides the staunchest of economic and professional protection.

This unapproachable economic and legislative service to the thousands of physicians in Illinois is so conspicuous and far-reaching and so apparent that the well versed physician wonders what in the world justification there is on the part of certain physicians to claim that no economic service is offered or given by organized medicine in Illinois or elsewhere.

In the face of such false and misleading statements it is well to epitomize briefly some of the unconscious benefits that have accrued to the profession from the various officers and specific committees of the respective county medical societies and the Illinois State Medical Society and that have, so to speak, continued "to toil upwards in the night."

Organized medicine, as vested in your county and state society, provides the staunchest of economic and professional protection.

This is done at a minimum price. Organized medicine gives the members of its accredited societies, the maximum of efficient service, at a cost that is almost picayunish. This is quite in line with the ratio of skill and science versus financial return with which the profession serves the public. And all of this is in juxtaposition with what the various cults and isms levy upon the members of their numerous organizations. For instance chiropractors in Illinois pay annual dues of $120 per capita, merely as a starter, for the upkeep of their organization. Further, special assessments up to the sum of $500 are frequently the order of the day.

As a result of foresight and hard work, the organized profession of the state prevented the enactment of the notorious Sheppard-Towner Bill, eight years ago, in so far as the State of Illinois is concerned. At its recurrence for consideration eight years ago, this bill was again repelled as it never reached a vote. Again six years ago, so influential had the organized profession become that its sponsors held that "discretion was the better part of valor" and after due deliberation, did not re-introduce their bill.

There were only five states with sufficient foresight to turn down this nefarious legislation. Illinois can take pride in being one of the five. The five states are Connecticut, Illinois, Kansas, Maine and Massachusetts. Again eight years ago, in the Illinois General Assembly, nearly fifty bills of a detrimental medical nature were introduced. Not one was written on the Statute books. Again one year ago, in the Illinois General Assembly, over one hundred bills of a detrimental medical nature were introduced. Not one was written on the Statute books.

No other state in the Union can show such a record. It stands for *pre-eminent organization service to membership.*

For twenty years the organized profession of the state has kept watch and ward over the interests of the profession. From the perfection of the Medical Practice Act in 1923 to the present day, continuous service has been given the physicians of the state of Illinois by their state and county organizations. During the past twenty years the fight has included the overthrow of some almost incredibly favorable laws for quacks and charlatans. No other state has been so successful in such prevention of vicious medical legislation. Illinois comes nearer than any other state in the Union, of possessing one standard for entrance into the practice of medicine. Illinois is not afflicted with special boards, conditions and the like, by which the

inept traffic in human life, nor are its ethical doctors humiliated by having to sit on the same boards with quacks, and representatives of vicious cults.

Referring again to the Medical Practice Act in Illinois, it is one of the most capable pieces of legislation of that nature that is in existence. Furthermore the Supreme Court has upheld its validity, not once but *on four separate occasions.* This piece of legislation owes its place on the Statute books to the organized medical profession of Illinois. It is a masterpiece and it is the work of organized medicine in the state.

Advisability of a blanket act administered by one board including all branches of human treatment, is self-evident in view of the multiplicity of laws and examining boards in many states. When the proposed measure was pending, endless effort was made by drugless healers to liberalize the act. Through the untiring efforts of officers of the various medical societies of the state, the bill passed in essentially the same form as that in which it was offered.

Many members of the General Assembly are in the real estate business. According to law these must pay a renewal license fee annually. This group sought attachment of a $5.00 renewal fee on the Medical Practice Act. Vigorous opposition by organized medicine, hours of conference with the leaders in that session of the General Assembly enabled doctors to defeat the amendment, and save a great deal of money and needless red tape for the physicians. With about twelve thousand medical men in Illinois, defeat of this amendment approximates a saving of $60,000 annually to these physicians, or practically half million dollars since the passage of the act in 1923.

In 1923 the Sheppard-Towner Bill was championed by a large lobby of women of education who waged an intensive campaign for the adoption of the provisions of the Federal Act by the State of Illinois. During the hearing on that bill in Congress in 1921 Illinois was the only state that sent a physician to Washington to oppose the passage of the Federal Maternity law. Despite the able protest of Dr. Charles E. Humiston, then president of the Illinois State Medical Society who represented us, unfortunately the bill was passed. Every state in the union accepted the act except five; viz, Illinois, Maine, Massachusetts, Kansas and Connecticut. The protest made by Illinois at that time later bore results against federal subsidies of this sort. The Illinois State Medical Society has aided in defeating several hundred pernicious bills in the last four Illinois General Assemblies. Out of the twelve hundred bills introduced at the 1927 session, one hundred twenty-six, or over ten per cent, had either a direct or an indirect bearing on the medical men of our state. In 1925, after a bill curtailing public health departments in the necessary performance of their work had been literally "kissed" through the House and Senate and the governor urged to sign the measure by the League of Medical Freedom call went out to representatives of the Illinois State Medical Society. After a conference with, and upon the advice of this committee, the governor vetoed the bill.

Diversion of the tremendous post-bellum lay interest in the practice of medicine with an insistence for participation therein that has verged dangerously towards state medicine and the practice of the profession by lay-persons, has been a problem of organized medicine, with the life saving idea of turning such interest from a force pernicious to the public welfare into an active auxiliary of the recognized medical profession. The medium for dealing with this vital problem has been sought for and found in the educational committee of organized medicine. Through this committee, organized lay-bodies, especially of women, either club women, or those who had felt the urge of concerted benevolence as vested in war auxiliary work are being shown that the best contribution they can make for public health and infant welfare is to work through organized medicine rather than through organized laymen. This problem, including as it does the tremendous amount of free service given through the endowed clinics of private foundations, touches upon the similar debauching of the province of ethical medicine through the federalization of over sixty per cent. of the hospitals of the country. Government ownership of so large a percentage of hospitalization facilities of the country is of a piece with the noose that has been slipped over the heads of the taxpayers and the profession by such legislation as the Sheppard-Towner bill, and all of which

has been and is being fought by organized medicine. Especial study, careful appraisal and gradual solution, of all these problems and their ramifications reveal a seemingly insurmountable task for the medical profession of the nation. Combating these terrific problems with their tremendous financial backing, has been a vital labor, and continues to occupy the time and keenest mental concentration of the officers of ethical medical organizations of the State of Illinois. An enormous amount of time and an inestimable amount of personal and financial sacrifice on the part of these officers has gone into the solution of these problems, as far as they have been solved and into the protection of the rights of ethical physicians, and even further for those of the people of the state themselves. A final word may not be malapropos about what in future may prove to be the weakest link in the chain and one to which the education committee has bent much attention. The place played by organizations of women in the furtherance of state medicine is serious. Many of the women who said that they thought the Sheppard-Towner law was a beneficial thing simply did not know what they were talking about, so it was discovered, as their emotions only had been appealed to, and investigation showed that the average club woman who spoke blithely about the excellencies of the Sheppard-Towner bill thought that it means financial maternity care for the poor.

The education committee sponsored by the Illinois State Medical Society has paid especial attention to the education of club women and other associations of women along the lines of what organized medicine is doing. As a result, today there is a far better understanding between these bodies and the organized profession and a spirit of cooperation on the part of these lay-bodies to the end that the problem of organized medicine is to receive and adopt their assistance, but not to suffer their dictation.

Where formerly organized medicine met with misunderstanding opposition, now organized medicine is receiving support and a large amount of cooperation from the Illinois Federation of Women's Club, the Parent-Teacher Association, and numerous similar and affiliated organizations. All of this has been accomplished through untiring endeavor from the diligent, conscientious, far-seeing, self-sacrificing executives who have served as officers for many years of the state society and its components.

THE ANNUAL MEETING OF THE STATE SOCIETY AT SPRINGFIELD. ANNOUNCEMENT OF THE COMMITTEE ON ARRANGEMENTS

1932 ANNUAL MEETING COMMITTEE ON ARRANGEMENTS

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Secretary-Treasurer, Homer P. MacNamara.

1. Reception Committee: E. E. Hagler, Chairman; W. P. Armstrong, Jr., Vice-Chairman; Harry Ament, W. J. Armstrong, Sr., Paul Bain, Stuart Broadwell, R. T. Clark, John J. Donovan, J. R. Irwin, David G. Lockie, Henry F. Lutyens, S. R. Magill, C. S. Mayes and L. D. Wright.

2. Entertainment Committee: A. E. Walters, Chairman; M. G. Owen, Vice-Chairman; A. W. Barker, C. C. Copeland, Franklin Maurer and O. F. Maxon.

3. Information Committee: Walter Bain, Chairman; Henry Otten, Vice-Chairman; D. C. Ditmore, J. G. Meyer, David McCarthy, H. W. Sears and M. E. Rolens.

4. Committee on President's Dinner: C. S. Nelson, Chairman; Jas. A. Day, Vice-Chairman; John Deal, C. F. Holmberg, G. A. Hulett, George T. Palmer and G. B. Stericker, Sr.

5. Publicity Committee: John J. McShane, Chairman; Grace S. Wightman, Vice-Chairman; Lee Hagler and I. W. Metz.

6. Committee on Meeting Places: O. L. Zelle, Chairman.

Surgery: Nelson Chestnut, Chairman; H. Aschauer and David J. Lewis.

Medicine: J. E. Reisch, Chairman; M. M. Bradley and Thos. D. Masters.

Eye, Ear, Nose, Throat: E. T. Blair, Chairman; J. A. Kerst and E. A. Morris.

Public Health and Hygiene: Elizabeth D. Ball, Chairman; R. C. Cook and H. S. Houston.

Radiology: Lawrence M. Hilt, Chairman; Geo. M. Harper and J. M. Shearl.

7. Finance Committee: Homer P. MacNamara, Chairman; Berton W. Hole, Vice-Chairman; L. E. Orr, Paul Reinertsen and A. L. Stuttle.

8. Registration Committee: P. L. Taylor, Chairman; E. K. Lockwood, Vice-Chairman; Frank N. Evans, J. C. Jackman, B. J. Kuly, G. J. Mautz, H. L. Metcalf, Thos. W. Priest, N. Rosen, G. W. Staben, A. R. Trapp and W. W. Van Wormer.

9. Transportation Committee: C. W. Milligan, Chairman; R. K. Campbell, Vice-Chairman; A. G. Hofferkamp, J. A. Lindquist and Chas. McLaughlin.

10. Committee on Exhibits: A. C. Baxter, Chairman; Hermon H. Cole, Vice-Chairman; Chas. F. Harmon, J. H. Hill, V. D. Stanford and J. C. Walters.

11. Contract Committee: Robert Flentje, Chairman; O. E. Ehrhardt, Vice-Chairman; O. H. Deichmann, R. E. Holden, W. P. Levis, J. C. McMillan and Robert E. Smith.

12. Ladies' Entertainment: C. P. Colby, Chairman, and H. T. Morrison, Vice-Chairman.

13. Alumni Dinner Committee: H. C. Blankmeyer, Chairman; George G. Harvey, Vice-Chairman; Chas. L. Patton and G. B. Stericker.

14. Advisory Committee: C. A. Frazee, Andy Hall, John R. Neal and S. E. Munson.

15. Fraternity Committee: C. B. Stuart, Chairman, and D. I. Martin, Vice-Chairman.

16. Golf Committee: Fred Cowdin, Chairman and Robert I. Bullard, Vice-Chairman.

17. American Legion Committee: R. D. Dugan, Chairman; H. H. Tuttle, Vice-Chairman; A. G. Aschauer, E. L. Bernard, C. W. Compton, Gerald C. Hunt and H. H. Southwick.

18. Show Committee: H. B. Henkel, Chairman; J. A. DeFrietas, Vice-Chairman; F. B. Jones, W C. Martini, C. V. McMeen and Fred S. O'Hara.

19. Colored Reception Committee: Robert H. Beverly.

EXHIBITORS—TAKE NOTICE

The 1932 Annual Meeting of the Illinois State Medical Society will be held at Springfield, Illinois, on May 17, 18, 19, 1932. We believe that the Society has more to offer to exhibitors this year, than at past meetings. All of the Scientific Section Meetings will be held under one roof, in the same building which houses the exhibits. The General Sessions will all be held in this same building. The building is only two blocks from the leading Springfield Hotels. The exhibition hall is large, and the booths larger than are usually available. Uniform booths will be available for every exhibit. A synopsis of every exhibit will be given in the April and May numbers of the ILLINOIS MEDICAL JOURNAL, and also will be included in the official program for the meeting.

The Society will do everything possible to help the exhibitors, and much publicity will be given. The exhibits are carefully selected and only reliable commercial concerns are permitted to exhibit at the meeting. The diagrams, and complete information concerning commercial exhibits can be procured now, by addressing the Secretary, Dr. Harold M. Camp, Monmouth, Illinois. Complete information will be mailed promptly on receipt of a request for the same.

DOCTORS DESIRING TO PRESENT PAPERS BEFORE THE 1932 MEETING OF THE ILLINOIS STATE MEDICAL SOCIETY TAKE NOTICE

SECTION ON PUBLIC HEALTH AND HYGIENE

All persons desiring to preface and read papers before the section on Public Health and Hygiene of The Illinois State Medical Society to be held at Springfield in 1932 should communicate with the chairman of the section, Doctor Arlington Ailes, LaSalle or Doctor Arnold Kegel, Chicago.

SECTION ON RADIOLOGY

Doctors wishing to present papers before the State Society meeting to be held at Springfield, May 17, 18, 19, 1932, kindly communicate with Dr. E. L. Jenkinson, Chairman, Chicago and Dr. P. B. Goodwin, Secretary, Peoria.

SECTION ON MEDICINE

It is desired by the officers of the Medical Section that any members desiring to present papers at the Springfield session notify *both* the Chairman and Secretary at the earliest possible date. Chairman, Dr. Warren Pearce, Quincy and Secretary, Dr. W. H. Nadler, 8 South Michigan Avenue, Chicago.

SECTION ON EYE, EAR, NOSE AND THROAT

Any member wishing to present a paper at the Eye and Ear Section meeting at Springfield,

May 17 and 18, will please communicate immediately with Dr. Frank Novak, Jr., Secretary, 30 North Michigan Avenue, Chicago.

SECTION ON SURGERY

Those wishing to read papers before the Surgical Section will please apply to James T. Gregory, 826 East 61st Street, or Sumner M. Miller, of Peoria, Illinois.

DR. PUSEY PAYS ELEGANT TRIBUTE TO THE DOCTOR OF THE 1870's AND 80's

Filial tribute of Dr. William Allan Pusey to R. B. Pusey makes interesting illustrated brochure.

Dr. Pusey in his volume, "A Doctor of the 1870's and '80's" pays eloquent tribute to the labors and the talents of his father, the late Dr. R. B. Pusey, as well as to that able genius, the general medical practitioner. Further the volume gives a piquant, accurate and instructive sidelight upon the development of the practice of medicine in the last thirty years of the past century.

The senior Dr. Pusey was a graduate from what was the great pioneer medical school,—Jefferson Medical College, Philadelphia, though two of his brothers had had sheepskins previously at the University of Louisville.

Space does not permit, nor would it be just to the sales of the volume to quote from it as liberally as inclination desires. Suffice it to say that no matter how busy a physician may be he will find time well spent in perusal of this volume.

Simply and faithfully told it pictures the rewards and the loveliness that can be a country doctor's life, rooted as it has always been and must ever be—in individual sacrifice and personal industry. The entire volume is reminiscent of those famous lines from James Russell Lowell,

"Who gives himself with his gift, feeds three,
Himself and the lowly beggar and—ME!"

The book may be ordered from C. C. Thomas, 220 Monroe St., Springfield, Ill. You will find your three dollars well spent.

BUREAUCRACY AND OVER-CENTRALIZATION IS A FATAL MENACE WHERE THE PRACTICE OF MEDICINE IS CONCERNED

Promulgation of the gospel of "I-Told-You-So" is neither popular nor polite. Yet for over two decades the editor of this publication has been prophesying and preaching against the encroachments and tax expense of bureaucracy, paternalism, over supervision, and too much centralization at Washington. So-called "reforms" lobbied into public life by use of the medical profession as a catspaw, the submersion of medical economics in a sea of socialistic and paternalistic lay and political legislation and interference—and to which there seems continual increase rather than check—has laid heavy on his heart and continuously on his tongue. But when you pay your taxes this year, here are a few confirmatory sidelights on present conditions as unearthed in Washington and printed in the *Chicago Daily Tribune* under date of Dec. 28, 1931, and under date of Dec. 26, 1931. Both articles appear under the signature of the Tribune's Washington correspondent, Arthur Sears Henning. The one of Dec. 28 says in part, "After half a century of intensive development, paternalism is so deeply entrenched in the federal government that it will take a political revolution to uproot it." Of course few suffer more from paternalism than medicine.

"In the light of the 2 billion dollar national treasury deficit impending this fiscal year on top of the 900 million dollar deficit last year, one begins to perceive the colossal cost of *federal paternalism, federal subsidies, and federal regulation of business, public morals, and private conduct.*

"For the rule of the federal bureaucracy of 700,000 pay rollers over the public and private lives of the people the taxpayers are shelling out this year more than 4 billions of dollars. To meet this 4 billion dollar expense there are only 2 billion dollars in the till.

PUT U. S. IN RED

"Scrutiny of both sides of Uncle Sam's ledger discloses that the 2 billion dollars in the red are just about what the federal government's paternalistic, regulatory, subvention, and socialistic activities, in departure from the original conception of the functions of the central government,

are costing the taxpayers. In order to continue these activities unabated the Hoover administration and the leaders of congress are proposing to increase existing taxes and impose new taxes. Here is the situation at a glance:

National prohibition prevents the collection of excise taxes on liquor consumption approximating	$ 900,000,000
Cost of paternalistic, regulatory and subventional federal activities and extravagance in administration	800,000,000
Excessive cost of government ventures in manufacturing, transportation and other business enterprise	300,000,000
Total	$2,000,000,000

500 MILLIONS POSSIBLE

"The estimate of the amount of federal revenue that would be derived from excise taxes, which but for the prohibition law could be imposed on liquor now being consumed tax free as to manufacture and sale, is that resulting from the study made by the Association Against the Prohibition Amendment. Although repeal of national prohibition would be essential to the realization of this amount of revenue from liquor consumption about 500 millions might be expected from taxes on beer and light wines, according to Representative James M. Beck [Rep. Pa.] if congress were to declare those beverages nonintoxicating and remove them from the jurisdiction of the Volstead act.

"In addition to the cost of prohibition in the amount of revenue of which it deprives the federal government, there is the approximately 65 millions in expense of enforcement of the 18th amendment, the expansion of the court machinery, the coast guard and prison accommodations, and the increased departmental overhead expense.

"One of the big items of waste is in the pay roll of the bureaucracy. Estimates of the number of superfluous employes in the various departments run all the way from 10 to 30 per cent. Speaking from intimate knowledge of the government service, Representative Beck, former solicitor general of the United States, says the number of employes who perform not more than one hour's work a day is notoriously large. Many departments allow one month's vacation and one month's sick leave a year. Most employes take not only the vacation, but the entire sick leave, whether ill or not, thus putting in only ten months a year on the job.

"Incidentally the federal bureaucracy, while it may have heard tell of the depression has not felt it up to date. The pay of government employes was raised during the war to meet the rise in the cost of living. Now that the cost of living has gone down nearly to the pre-war level government employes, who are still getting war time wages have more money to spend than ever before. What with 65,000 government pay rollers in the District of Columbia with money to spend, the erection of numerous palatial government buildings costing 100 millions and construction of other works for the beautification of the capital which are providing business patronage and employment, Washington is lapped in the luxury of boom times while the rest of the country is down to hard pan.

ALL WANT TO EXPAND

"In the bureaucracy the people have created a Frankenstein monster that now threatens to destroy its creator. It has become a question how much longer the people can endure the steadily increasing burden of taxation to support 200 bureaus and boards with their ever increasing demands upon the public purse. The object of every bureau of the government is to expand its scope, add to its power and increase in its personnel. No bureau willingly reduces its expense and few are required to do so. Every bureau is the center of a powerful political manipulation of the executive and legislative branches in numerous ways to promote its own aggrandizement."

What have we said for twenty years?

ACTIVITIES ARE WIDESPREAD

"A bird's eye view of the extension of the federal government into the province which the founding fathers contemplated would be occupied exclusively by the states is furnished by the table of expenditures aggregating approximately 800 millions which accompanies this article. Therein are displayed the multitudinous activities, paternalistic, regulatory and subventional, that have been taken on the central government through the influence of various interests in the last generation or two.

"Some of these items represent waste of public money in spheres of legitimate federal function.

But most of them fall into the categories of paternalistic regulation of the conduct of citizens, of social uplift, of subsidies and other aids to agriculture, industry and commerce, and of government enterprises in the realm of state socialism.

TOTAL COST IS UNKNOWN

"Just how much the federal government's invasion of the field of private business is costing the taxpayers nobody knows. For more than a year the chamber of commerce of the United States has been investigating costs of operating government navy yards, factories of various kinds, railroads, ship lines, hotels, coal yards, retail stores and numerous other enterprises. The investigators have found that the difference between what it costs the government and what it would cost private enterprise in these ventures amounts at least to several hundred millions of dollars.

"In succeeding articles in this series there will be described in detail all these multitudinous activities of the federal government in fields in which it has gradually invaded as the demands of influential groups for handouts from the national treasury developed and the tendency to let Uncle Sam perform the functions of the states gained ground. Uncle Sam will be shown ministering to every conceivable interest of the individual from the cradle to the grave through an organism of government so vast as to bewilder the comprehension.

NEARLY EQUALS DEFICIT

"When I asked Representative W. R. Wood [Rep., Ind.], chairman of the house appropriations committee in the last congress, to what extent, if any, the people are being taxed to support superfluous activities of the central government he ejaculated:

"'To such an extent that if they were lopped off the deficit would be pretty nearly wiped out. But just you try to get one of these superfluous bureaus abolished. It simply cannot be done. I know, for I have tried it—and failed. They are dug in for keeps.'

"The machinery of the federal government is now stupendous. It takes 58 pages of the Congressional Directory to list the Washington offices of the executive branch alone and 114 pages to summarize their functions."

Bureaucracy is always a curse, and centralization a lethal menace under any conditions. Where the practice of medicine is concerned, it is fatal.

America is forced by law to do, and prohibited by law from doing more things than had been prohibited or required in autocratic Europe before the war.

FINANCING PHYSICIANS', HOSPITAL AND DENTAL BILLS AT THE NORMAL RATE OF INTEREST

The *International Journal of Medicine and Surgery*, November, 1931, under the caption *"Medical Financing—An Urgent Need"* has a very timely editorial, we quote:

"In this period of depression, perhaps the most difficult economic problem facing the medical profession is the matter of being paid for services rendered. Even in prosperous times, the doctor is the last to be paid. He can wait.

"This particular problem bears no direct relationship to any of the other problems that confront the doctor. Pay clinics, dispensaries, medical centers, open and closed hospitals, group practice—all of these, as the lawyers would say, are immaterial and irrelevant and secondary to the immediate problem of being paid for work done and services rendered. Simply stated, services have been engaged and rendered; the patient finds himself unable to pay at once because of the depression. The doctor is left holding the bag, and he may hold it for many, many months, possibly years.

"What can he do? He must live and pay for what he requires. He gets nothing for nothing. If he were a merchant, he could take his patient's note to his bank and have it discounted. The patient would have a welcome extension of time and the doctor would get his money less the usual interest charge. But the doctor is not a merchant. Being a professional man, he has no mercantile rating. He has no line of credit in his bank and cannot borrow except upon the deposit of gilt-edged collateral. The storekeeper on the corner can borrow because he carries a stock of merchandise, which means 'tangible assets' to the banker. The doctor having merely knowledge, experience and personal integrity—all intangible assets, has no rating. Here, indeed, is a real doctor's dilemma.

"The solution of this dilemma seems on the way through the development and popularizing of methods of medical financing. By this means the doctor is paid without delay and the patient pays his indebtedness in small instalments to the financing concern. There is no analogy between this idea and the high-pressure instalment selling of recent years. No one is urged to buy and buy and buy medical services and pay out of earnings. We are not selling radios or refrigerators or automobiles. We have nothing to sell but our services and the need for these services usually falls out of a clear sky upon all human beings at one time or another. Illness is never invited; it is forced upon us. Like taxes, it is inevitable. But the cost must be reckoned with. Fortunate, indeed, is the man whose means are such that he can meet the call when it comes to him.

"To those who cannot meet this call, medical financing must be a great boon. We cannot think of a greater service both to the patient and his doctor than the development of some practical plan whereby payment for medical services can be made easier for the patient and more prompt and certain for the doctor. It is the most urgent need of the public today. We see no reason why the doctor should be compelled to wait months and even years for his compensation while he suffers privation as the result of this practice. It is of mutual advantage for the payment to be made less difficult for the patient and more quickly to the doctor. The self-respect and well-being of both parties is thereby enhanced beyond computation.

"The particular plan to be adopted is a subject for considerable study and thought. It must have proper backing and support. Any plan that savors of a 'racket' and exploits the patient or the doctor or both, must be denounced as a menace and eliminated from consideration. On the other hand, medical men should seek to develop and encourage a plan of financing which will stand up against the most careful scrutiny. Such a plan must have the support of conservative banking interests and must be managed by men of unquestioned character and probity. If such a plan can be developed, it will do more than anything else to establish the essential cordiality of economic relationship which must exist between patient and doctor. Both the lay public and the medical profession will have cause to be grateful if such a plan can be developed. We can only express the hope that its consummation will not be long delayed."

NOTE: That the scheme is feasible is shown by the experience of the National City Bank of New York.

Three years ago the rich National City Bank of New York opened up a department for loans without collateral security to working folks who needed a hundred or a thousand dollars and needed it badly.

After a year, however, during which the National City Bank loaned over $16,000,000 in such loans, a report was made which shows the borrowers met their obligations promptly. The experience of the bank helps support the general conviction that most folks are honest. Most men and women take pride in making their word as good as their bond.

This great bank helped in one year more than 50,000 New York families by its small loan policy. It helped a man finance a surgical operation for his son. It provided a waitress with enough money to bring her brother to this country from Germany. It freed many wage earners from the toils of the loan shark. A third of the loans were for medical and dental service; 15 per cent. to pay debts and other loans; 14% went for home equipment, and 8% for payments on homes; education took 5%. The repayment plan, calling for regular savings accounts deposited from wages, was promptly followed by 90% of the borrowers and legal actions had to be instituted for the recovery of less than 1% of the total loans.

ALTON MEDICAL SOCIETY WILL CONDUCT CLINIC IN PROGRAM FOR WINTER RELIEF OF UNEMPLOYED AND DEPENDENTS

THE RIGID RULES SET UP IS INTENDED TO SAFEGUARD AID FOR DESERVING

THE PROJECT IS PHYSICIANS' PART IN GENERAL RELIEF PROGRAM

Plans for the clinic to be conducted at St. Joseph's Hospital by the Alton Medical Society, as part of the program for winter relief of the unemployed and their families, have been completed by the committee of the society to which

was assigned the task of setting up the machinery for the clinic.

The Medical Society will conduct the clinic as its part of the program for relief to be carried out by co-ordinating agencies and organizations.

The Alton Dental Society has voted to give full cooperation to the Medical Society in conduct of the clinic.

The clinic will be open on Tuesday, Thursday and Saturday of each week from 1 p. m. to 3 p. m.

Strict rules, which will be enforced rigidly, have been set up to prevent abuse of the privilege to be extended in free medical and surgical attention. Efforts to prevent impositions have been made not only to prevent those unworthy of taking advantage of relief service, but to assure that the benefits of the clinic will accrue to a maximum number of deserving persons.

Rules for Clinic

The rules for the clinic as set up by the committee of physicians contemplates the united action of social service agencies.

All cases to receive clinical attention must be registered at the central registry to be established in the offices of the Associated Charities. Clinical service will be limited to those cases certified by organizations and institutions cooperating in the general relief program.

Only those who register as required, or are registered by one of the cooperating groups, will be admitted to the clinic except in case of emergency.

When a patient ceases to be indigent, he will be sent back to his private physician and free use of the clinic will be denied.

Home Call Requests

All requests for home calls must be made through the registry at the Associated Charities, between the hours of 9 a. m. and 5:30 p. m. Night calls—which may be made only in case of emergency—must be made through the Police Department or St. Joseph's Hospital. A member of the Medical Society will answer the calls.

The clinic service will be extended to those who now are under the care of nurses of the Associated Charities, as well as such new cases as are found indigent and deserving.

Strict Regulations

The Medical Society, the committee announced, is ready to launch its program of taking medical and surgical service to those whom unemployment has deprived of the means of paying, this action being the society's function as a unit in the plan of city-wide coordination of all groups in carrying on an adequate relief program during the winter. That the maximum of care may go to the greatest number of persons, the system of registration has been devised to make virtually impossible any person's receiving the attention who is undeserving, thus taking the place of one whose condition, both physical and financial, makes clinical care a necessity.

The clinic will be denied all persons whose finances are such they possess an automobile, the committee decided.

A VALUABLE SURVEY OF MEDICAL CHARITIES BY THE MICHIGAN STATE MEDICAL SOCIETY

We are much interested in a special meeting of the House of Delegates of the Michigan State Medical Society that will convene in January, 1932. At the last annual meeting of their House of Delegates there was appointed a committee on investigation and survey of medical service in Michigan. This committee has had several meetings and are now laying the ground for a most careful and scrutinizing survey of all agencies that are now endeavoring to render some type of health service in the form of clinics, foundations, hospitals and lay activities. The committee contemplates exposing the overlapping of many of these agencies, the disregard to the individual's right to such free service and the other evils that are increasing with all these types of service.

The committee proposes to make a most intensive survey of the entire state. The work is expected to take about a year and will entail the expenditure of something like $25,000.00 or $30,000.00. Part of the money has been already raised. There will be no trouble to secure the balance. It is the belief of the Michigan State Society officials that their findings will be of service and value to other states and that possibly they will be able to start a reform that will spread throughout the nation.

Of course the committee is running into oppo-

sition with those within the ranks as well as those who are in political offices or who pose as public benefactors. This was to be expected at the outset but we are confident the committee will not be swerved from the objective they set out to reach.

VIVISECTION

The Chicago Veterinary Medical Association, at the meeting of December 8, passed the following resolutions to clarify their stand regarding vivisection:

Resolved, That the Chicago Veterinary Medical Association, having been placed in a false light as a result of the recent controversy between Medical Schools and the Anti-Vivisection-Anti-Cruelty Society, hereby goes on record as being in no way connected with any branch of any anti-vivisection society or like association.

Further Be It Resolved, That the Chicago Veterinary Medical Association communicate this sentiment to the Chicago Medical Association and to each of the physiological departments of the Medical Schools of the Chicago area and also the Mayor of Chicago.

All members of our association thoroughly agree to the absolute necessity of animal research in furthering the science of medicine—and desire to bring this most forcefully to your attention.

Correspondence

THE GENESIS OF SOCIAL INSURANCE

Chicago, Illinois, December 15, 1931.

To the Editor: For a number of years I have been convinced that Social Insurance is one of the most important problems confronting the civilized nations of the world and that Compulsory Health Insurance, a branch of Social Insurance, is the biggest quasi-medical question before the medical profession of this country today.

Acting on this belief, I have prepared six short articles which consider the problem from its political and economic effects upon society in general. If these articles are well received by the editors, I intend to write six more, the material for which I have already collected. These latter articles will consider the effects of such legislation upon medical practice.

EDWARD H. OCHSNER, M. D.

The following is the first installment:

THE GENESIS OF SOCIAL INSURANCE

Social Insurance is the hybrid offspring of impracticable sentimentalism and political expediency. It is an epidemic disease first observed in Germany about fifty years ago which has gradually spread and infected a considerable number of the nations of the earth and now has arrived at our very doors. Unless we succeed in establishing a rigorous quarantine of enlightened public opinion, it will surely gain a foothold in this country in the not distant future.

Social Insurance consists of the following subdivisions or parts: Compulsory health insurance, old age pensions, widows' and orphans' pensions, and unemployment pensions or doles. In none of the countries were they all adopted at the same time. Germany adopted compulsory health insurance in 1883, and all of the other forms since that time. Austria adopted compulsory health insurance in 1888; Hungary, in 1891. England adopted old age pensions first and compulsory health insurance in 1911, and the others subsequently. In this country some of the states have adopted old age pensions and some widows' and orphans' pensions, but so far none have adopted compulsory health insurance, for which negative blessing let us raise our voices in thanksgiving.

When the scientific physician is confronted with the problems presented by a new patient, he meets the situation in the following manner: he obtains a complete family and personal history in order to ascertain if possible the causes which have brought about the condition; by his physical examination and laboratory investigations he finds out what variations from the normal have taken place; after all this he is in a position to advise and institute the proper treatment. Let us follow the same course in the study of this problem.

During the late seventies a number of German parlor socialists conceived the idea that the state make itself responsible for the medical care of its workers. The sentiment in favor of compulsory health insurance grew rapidly among the workers, and Bismarck, although expressing serious doubts as to the soundness of such a

measure, yet feeling that something had to be done in order to appease the clamor of the proletariat and the alarming growth of socialism, adopted social insurance as a government measure, had a bill drafted and enacted into law.

In England, National Insurance, as it is called there, had a slightly different setting but substantially the same background. In 1910, David Lloyd George in order to strengthen himself politically decided the time for such legislation was opportune. Not being able to speak German, he gathered about himself several interpreters, hied himself to Germany, and after interviewing the well paid heads of the German system, and after having been wined and dined and lionized for two weeks or so, he returned to England very enthusiastic about the whole project, had a law drafted, and later secured its passage. In the recent parliamentary election the Liberty party, of which Lloyd George has been the head for many years, elected just four members to Parliament or less than one per cent. of the whole number. So while Lloyd George may have saved his political skin by National Insurance in 1911, he certainly lost his hide by it in 1931.

Practically every reform movement attracts to itself a considerable number of well meaning, emotionally impressionable, impractical, irresponsible, very vociferous individuals, and very often a group, usually the very ones who manage the propaganda and who hope to gain some pecuniary benefit from it. Social Insurance is no exception to this general rule.

Some of the common characteristics of reformers is that they want a new law passed for every human ill, and when the law is enacted, they either sit back waiting for the millennium to arrive or they rush off looking for new evils to correct by new laws forgetting to see to it that the law just passed is being properly enforced, and forgetting at all times that all laws must depend for their enforcement not upon supermen but upon men often of less than average intelligence and integrity, upon politicians and their henchmen, who are quick to see how these usually unsound and loosely drawn laws can be converted to their own advantage.

(The above is what is actually happening in some of the countries where such laws are in operation as future installments will show.)

SO-CALLED FREE CLINICS ARE NOT FREE

Chicago, Ill., Dec. 15, 1931.

To The Editor: The attached article, "Free Clinic—A Misnomer," I believe gives emphasis to the fact that the new so-called free clinics are not free and should not be promoted or referred to as free clinics. It seems this point has been overlooked in the fight to prevent the use of the medical profession to camouflage a racket.

J. B. Ross, M. D.

FREE CLINIC—A MISNOMER

It has been said that the new "free" clinics which are so aggressively being established "are nothing more than a blind for the perpetration of an out and out racket."

It is a fact that a number of civic minded men who were attracted to the plan because of its seemingly benevolent aspects severed all their connections with the proposition when they learned all of its phases.

According to reports "the promotional end is handled by an organization operating solely for profit. Their procedure is to contact women's clubs and individuals and by appealing to their sympathies induce them to contribute for the establishment of 'free' clinics. After deducting their fees the promotional organization turns the title of the property over to an individual or corporation that is to continue the operation of the 'free' clinic.

"If the individual dies the title of the property passes to his estate. If the individual or corporation wishes to sell or rent the property, it seems there is no provision made to prevent it."

No doubt the success of the whole promotion is based on the use of the term free clinic. Legislation should be enacted to stop misrepresentation by the use of the word free, if these so-called clinics are not free. The hospital or clinic must be maintained and necessarily a charge is made for urinalyses, x-rays, electrocardiagraphic examinations, blood tests, medicines and dressings. Of course a volume of these hospitalization charges produces a profitable income and a volume of operations at a small charge results in more profit than a lesser number at the regular fee.

It is deplorable enough that donations can be secured from people who are gullible enough not

to investigate with whom the title of the property they are donating, is vested. Or how long the "free" clinic will be maintained, after it is once begun, if no charges are made.

Newspapers, probably as gullible as contributors, when something which can be featured as "free to the people" is offered them for publication, are not hesitant in giving space and headings including the term "free clinic." One would think that newspapers of the present day would feel a greater sense of responsibility than to further a scheme which appears to be based entirely on misrepresentation. At least they should investigate the altruistic sincerity of such promotions before giving them publicity.

IT WILL AFFECT THE PHYSICIAN MORE THAN ANY OTHER TRADE OR PROFESSION

ELI LILLY AND COMPANY

INDIANAPOLIS, INDIANA, U. S. A.

December 22, 1931.

Dear Dr. Whalen:

Your editorial "Government Dictation of Medical Practice Has Reached an Alarming State" in December number of the ILLINOIS MEDICAL JOURNAL has been read with much interest in this office.

My personal opinion is that you are sounding a note of alarm that needs to be sustained. The extent to which the various branches of our government, municipal, county, state, and national, are regulating private enterprises and are taking over work that heretofore has been done in a fairly satisfactory manner by individuals is alarming. Oftentimes it both increases the tax rate and reduces the tax paying ability of thousands who are taxed.

I am glad that you are taking note of this tendency and if the medical profession at large could be made alert to these evils they could have a powerful influence in counteracting them. I cannot think of any type of professional man, even a lawyer, who will be more affected by this socialistic tendency than the physician.

JOHN S. WRIGHT.

NOTE: The editorial above mentioned seems to have attracted more than ordinary attention. We have received from economists both medical and lay so many complimentary messages both written and verbal that we feel the effort expended in putting the editorial in its published form well worth while.

HYPOPHYSEAL-OVARIAN RELATIONSHIP

Experiments described by John C. Burch, W. L. Williams, J. M. Wolfe and R. S. Cunningham, Nashville, Tenn. (*Journal A. M. A.*, Dec. 19, 1931), tend to show that endometrial hyperplasia is due to a relative excess of estrin. This of course can result from either an actual excess or a relative excess. The latter seems more probable. The ovary and the hypophysis are closely associated and each affects the other. There is a definite cyclic variation in the capacity of the anterior hypophysis to produce ovulation. Variations and deficiencies in the ovulation cycle might easily cause alterations in the menstrual cycle with idiopathic bleeding as a symptom.

PHYLOGENY OF MENSTRUATION

Carl G. Hartman, Baltimore (*Journal A. M. A.*, Dec. 19, 1931), emphasizes the fact that although the general biologist may concede that in its spectacular manifestations menstruation is a "primate character," if one searches for fundamental or even for the more superficial physiologic causes, and if one investigates other mammals and even the lower vertebrates and attempts to discover what they have in common with man, anthropocentric ideas receive jolt after jolt. He shows the universality of uterine bleeding in the vertebrate series and offers this generalization as another example of the kinship of man with the whole of creation. Sufficient is said to introduce those who have not thought of the matter to the widespread occurrence of bleeding into the müllerian derivatives. The study of the control of the bleeding has not yet begun, so far as the lower vertebrates is concerned. The suggestion of Hartman, Firor and Geiling that a hypophyseal factor may be generally involved seems to be worth following up. The common denominator in the physiologic control of the various types of bleeding is likely to be the fundamental principle involved. Menstruation according to this view begins with the Salachian fishes.

EFFECT OF HYPOPHYSECTOMY ON OVULATION AND CORPUS LUTEUM FORMATION IN RABBIT

Philip E. Smith and W. E. White, New York (*Journal A. M. A.*, Dec. 19, 1931), hypophysectomized rabbits by a procedure that permits prolonged survival. They noted that ovulation will take place although the pituitary is removed after a postmating period but slightly over an hour in length, thus confirming the report of Fee and Parkes. In such animals the corpora lutea develop normally for approximately a two day period. Further changes are atypical. The development of the corpora in the absence of any postovulatory pituitary secretion is discussed in regard to its bearing on the question of the unity or the duality of the pituitary sex hormones.

Original Articles

A REVIEW OF SOME OF THE ADVANCES IN GASTRO-INTESTINAL DISEASES.*

JOSEPH G. BEYKIRCH, M. D.

EAST ST. LOUIS, ILL.

Hening and Jergens[1] studied the absorption of alcoholic solutions of iodine compounds in diseased and healthy stomachs to determine whether there is any difference in the rate of absorption. This was done by means of a 10 per cent. solution of potassium iodine in 30 per cent. alcohol and estimating iodine in saliva. They also employed 10 organic gastric disturbances who have an accompanying gastritis. Their conclusions were that the mucous membrane of normal stomachs allows the absorption in varied strengths; whereas, in the chronically inflamed stomach there was a much greater absorption of the iodine solution.

Goddard[2] examined patients with gastric neurosis on whom no organic disturbance could be found, to determine if possible causes of their pain. They were unable to find any one thing in common, yet they were able to group their cases under different classifications. One group of the ptotic type, reveals that displacement of the stomach does not seem to produce distress, but there is some evidence that hypo-secretion and hypomotility have something to do with pain. Another group are those who have a hyperacidity and in whom spasm plays a part as proven by x-ray examination. They found at times, certain other cases who suffer from pyrosis, and low in acid, are frequently improved by the use of hydrochloric acid. They did not believe that hypermotility and hyperacidity correspond with any one type of discomfort. The ones suffering most are the hypersecretors.

In the study of secretion of mucus (Simchowitz[3]), concludes that the secretion of mucus in the stomach is entirely independent from the hydrochloric acid, and hyperacid gastric is by far more common than we suspect. There is an increase according to him of mucus in all cases of gastritis which is a valuable aid in diagnosis. He does not believe that it is an independent pathological entity but is present in duodenal and gastric ulcer as well as in cancer.

*Read before the Section on Medicine of the Illinois State Medical Society, May 7, 1931 at East St. Louis.

Ballowitz,[4] in reviewing fractional removal of stomach contents, is of the opinion that the accepted figures of a total acidity of 60 to 70 is too high. He determined this by means of the gastroduodenal tube, colorimeter and alcoholic solutions, and concluded that we cannot come to any pathognomonic conclusion from gastric analysis, but it has helped us to determine the physiology which accompanies disease and aids us in directing diet and therapy.

The gastroduodenal tube has greatly advanced the study of physiology of the stomach and the changes that take place there in disease. The hydrochloric acid of the gastric secretion has a varied appreciation. It is secreted in ½ to 1 per cent. concentration. (Carlson,[5]). It is important to stomach diseases because of its absence, and improper prolongation of its action and less because of the level of its titration, although this may tell us the condition of the function of the stomach. It is usually present in duodenal ulcer but it is sometimes found in cancer of the pyloric end of the stomach. An increase of acid does not mean that there is a gastric ulcer as we formerly thought it did. The idea that low acid with an ulcer of the stomach was an indication of syphilis or tuberculosis does not hold good any more. We do not believe that the increased acid secretion is the result of an ulcer irritation. It is now known too that the stomach with a healed ulcer has more acid than when the ulcer was active.

Pavlov[6] demonstrated some years ago the appetite gastric juice, and gastric secretion may be provoked by certain stimuli much in the same manner as in the salivary secretion. This gastric reflex is of great importance in the therapy of stomach conditions. An intestinal phase of gastric secretion has also been demonstrated by Ivy. In his investigation of peristalsis, Sussenbach[7] is of the opinion that in gastric ulcers the wave is slower and irregular, and very often there occurred changes between rest in active peristalsis. He noticed the peristaltic wave was present in cramps. He found that each individual has his own peculiar series of waves but they differ between the rest periods, varying from 12 to 30 seconds.

Poeschel[8] found that emptying time of the stomach varies a great deal in the elderly, but is generally hastened. He confirms a previous theory that the absence of hydrochloric acid in

old people has no bearing on the diagnosis of stomach cancer. He found also as we advance in age there is a tendency toward anacidity. In the giving of ephedrine it is found that the emptying time of the stomach is checked, due to a lessening of the motility, and in some cases of high acidity it was reduced. These experiments were performed by Trachtenberg.[9] He also learned that the concentration of neutral chloride is increased by ephedrine. He recommends its use in hypermotility and hyperacidity when it is accompanied by spasm, and thinks there is a definite use in conditions which show secretory and motil disturbances especially when atropine fails.

In the study whether tissue in gastric and duodenal ulcer are more acid or less alkaline than in normal individuals Wittenstein and Glaessner[10] studied 10 patients in whom ulcer had been found. They were kept on the ulcer diet and given every two hours, two grams of mixture of calcium carbonate and calcium magnesia. In examining the urine to reach a point of permanent alkalinity it was found that the ulcer cases averaged between 3 and 11 days, and in the non-ulcer cases from 3 to 10 days. They did not believe the prolonged alkalinization of the urine is characteristic. While the lessened alkalinity of the blood and tissues is probably the reason for this prolonged effort to reach alkalinity of the urine, it does not seem to be the cause of ulcer.

Formerly it was thought that the emptying of the stomach took place by chemical stimulation of the pyloric sphincter; the pylorus is not controlled by hydrochloric acid, but it is a part of the peristalsis of the stomach, and relaxes before another approaching wave. Luckhardt,[11] Wheelon,[12] Cole,[13] and Thomas. The peristalsis is chiefly myogenic in origin and co-ordinated by intrinsic nerves. The tone of the pylorus is closed when the pressure of either side is insufficient to overcome it. (Klein[14].)

The fluid condition of the gastric chyme favors the pyloric opening and is inhibited especially by solid material. Pylorospasm may be caused by any irritation in the peritoneal cavity. (Hughson[15].) One of the common causes is the appendix reflex and the peristalsis in a large extent is myogenic in origin. This movement may be started according to the point that is most sensitive or most active. In the fasting state, except for gas, the stomach is closed. The tone of the musculature creates a potential lumen of minimum capacity. It expands first by the weight of food and later by accommodation of its nervous mechanism, and is very sensitive to emotional states. (Alvarez[16].)

Experimental ulcer has been produced with generally uniform success. (Fremont-Smith[17]. Ivy[18].) In diagnosis, confusion arises to the failure to differentiate between acute ulcer and chronic ulcer. We know that the acute ulcer produces no symptoms unless it is hemorrhage or perforation. (Hurst.) In man the chronic ulcer occurs only when there is disturbance of the gastric motility, together with some change in the gastric chemistry. (Martin-Mann[19].) McCann thinks that there exists a direct proportion to the formation of an ulcer, as there is a lack of alkali beyond the pylorus. Fischel thinks an ulcer will form only when the stomach juices have an opportunity to destroy tissue. The pain is not due directly to the acidity, but due to continued contraction of the duodenal bulb. Whether an ulcer is due to the local disease or the result of some general disease is still a much debated question.

The one single factor that is constantly associated with ulcer is pylorospasm. Hyperacidity increases peristalsis, and an increase in the accumulation of gastric secretions are more or less dependent upon pylorospasms.

The question whether the treatment is surgical or medical is still unsettled but the tendency now is to treat it as a medical disease, and surgery is only indicated when the recognized complications develop or when an uncomplicated ulcer resists treatment.

The ambulatory treatment now is well established in the treatment of chronic ulcer. One that is acute or complicated requires rest in bed. Our general habits on living require general revision and disciplining.

In the treatment, food, of course, is of great importance but must be more than a formal regime of diet or any other temporary method of treatment. Tobacco, we know, has an influence on the pylorus and also increases the gastric secretion.

Alkalies certainly have their use in the treatment of gastric disturbances. Some authorities disagree with the neutralization theory. In the restoration of the normal gastric motility and

control of the gastric acidity, alkalies seem to play some part. Olch and Elman demonstrated that the neutralization of gastric juices after gastro-enterostomies is most important.

Fougelson[20], worked on Heidenhein's theory that the mucus is alkaline, and it was Pavlov who suggested its use in the neutralization of the stomach juices. They prepared mucin from the hog's stomach and gave it to the patients with their meals, incorporating it with ice cream or other frozen foods. He worked on the theory that it would neutralize or combine with the acid, and depress the gastric secretion without disturbing the stomach. He quotes Whitlow that gastric mucus delays and inhibits the diffusion of hydrochloric acid. He thinks from his observations that mucin has a high combining power. His observations of 12 patients with classic histories and x-ray findings show complete relief of the symptoms from two to five months.

Murphy Building.

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THE CLINICAL SIGNIFICANCE OF THE ROENTGENOLOGICAL FINDINGS OF THE STOMACH AND DUODENUM.*

SIDNEY A. PORTIS, M. D.

CHICAGO

Modern gastro-enterology has become so dependent upon correct roentgenological interpretation that its clinical significance is paramount. Our knowledge of diseases of the gastro-intestinal tract has been gained, heretofore, very largely from empirical clinical histories, transient observation at the operating table, and the results of pathological phenomena noted in the necropsy room, and in so doing, we have lost sight of the earlier clinical manifestations of diseases of the stomach and duodenum.

It is impossible in the short time allotted to me to take up every type of disease of the stomach and duodenum and I shall only try to lay emphasis on those that are of clinical import which we meet in our every-day practice. We owe much to the roentgenologist who has given us signs and findings of disease earlier than our previous methods of clinical investigation. However, it must not be lost sight of that occasionally the roentgenologist oversteps his bounds and reads evidence into findings where no pathology exists to explain it. Errors of commission may sometimes be worse than errors of omission, and when there is a definite discrepancy between the clinical and roentgenological findings, both of them must be repeated very carefully, and in the last analysis, the group of findings, either clinical or roentgenological, which have the most weight must be taken as the more conclusive diagnosis.

The reason for the marked discrepancy between clinical and roentgenological findings at times is because we have not, as yet, been able to group our atypical symptomatology to agree with the actual x-ray findings. Furthermore, it is to be remembered at all times that the roentgenray reveals facts which are subject to clinical interpretation and the diagnosis must always depend upon a correlation of the clinical and roentgenological evidence.

In any given lesion of the stomach it may be difficult at times, from the roentgenological standpoint, to give an exact pathological diagnosis. This is especially true of high-lying, lesser curvature gastric lesions. These occur more often in elderly individuals and are more often carcinomatous; however, exact diagnosis is more certain with an esophagoscope or gastroscope, with excised tissue for biopsy. Since surgery offers little or no relief for this type of lesion, it is best to treat them with deep x-ray therapy, be they benign or malignant, in addition to suitable medical management. It may be difficult in a lesion of the pars media of the lesser curvature side to differentiate between

*Read before Section on Medicine, Illinois State Medical Society, May 7, 1931, at East St. Louis.

†From the Loyola School of Medicine of Loyola University, Chicago.

a malignant and a benign lesion. The age, the duration of symptoms, and the extent of the deformity are important considerations. Many gastro-enterologists are prone to handle large, penetrating ulcers conservatively to see if the so-called niche "fills in." However, some of us have had the sad experience of having so-called benign ulcers "fill in," so to speak, under appropriate medical supervision, only to have them develop, years later, an inoperable carcinoma at the same site.

Small, penetrating lesions in young individuals may yield very promptly to medical management. However, the question of medical or surgical treatment of ulcer of the stomach must be weighed not only from the roentgenological evidence, but also from other clinical manifestations. The history of repeated hemorrhages, back pains due to penetration, and evidence of reflex pyloric spasm are significant findings, and with supporting roentgenological evidence, makes the choice of therapy very narrow, as surgical treatment in these cases is probably the better thought. Hour-glass contraction of the stomach associated with penetrating ulcer has been more frequently recognized by means of the roentgen ray. There are no symptoms pathognomonic of this condition and yet what folly it is to treat this condition medically!

Many a patient owes his life to the early recognition of a carcinoma of the stomach from the facts revealed by the x-ray laboratory long before the outstanding clinical manifestations of malignancy are present. This is especially true of a certain group of early carcinomata of the lesser curvature side. They produce little or no deformity on the fluoroscopic screen and yet, on film evidence, one may see a slight irregularity, which, we have come to believe, is suggestive of carcinoma, but from the clinical history, one would have little reason to suspect that carcinoma was present. If any given lesion of the stomach continues to ooze or show the presence of occult blood in the stool after a period of appropriate medical management for two weeks, a carcinoma or carcinomatous changes should be considered. It is to be emphasized here that there is no justification for x-raying a patient who has had an acute bleeding from the stomach or duodenum until the active hemorrhage has long since stopped or, under appropriate medical management, there is still only a slight oozing, and then, and then only, may one cautiously x-ray the patient.

Lesions of the greater curvature side of the stomach are practically always malignant and should be treated as such from time of recognition. Lesions of the antrum are open to question. Unfortunately, this portion of the stomach is so often the seat of reflex spasm from gastric or extra-gastric lesions that very careful clinical interpretation of roentgenological findings must be made. High-lying gastric lesions frequently produce a reflex spasm or deformity of the antrum. Duodenal ulcer, cholecystitis and appendicial disease, as well as other extra-gastric conditions, are common causes for the spasm of the antrum simulating lesions without any organic pathology there to account for it. The small pre-pyloric lesser curvature spasm which has been interpreted by many roentgenologists as ulcer is not ulcer, but is more often associated with cholecystitic disease.

Actual lesions of the antrum and pylorus may be either benign or malignant. However, if they are at the pylorus, they are probably better handled surgically, because they do not, as a rule, yield to appropriate medical management. They form cicatrization with motor insufficiency; they have a tendency to perforate or bleed; they may be a precursor in this region for carcinoma, and there is no value in handling these cases from the medical standpoint when they should have surgery from the outset. Saddle ulcers—those which encroach upon both the stomach and duodenum—are stubborn ulcers, and it may be wiser to handle these lesions surgically from the outset because they often produce pyloric stenosis with retention.

The operability or inoperability of carcinoma of the stomach can, within certain limits, be defined by roentgenological examination and many clinicians depend upon this information for their treatment in any given case. However, in spite of the fact that infiltration of a lesion occurs along the lesser curvature side as evidenced by roentgenological findings, with a patient in relatively good condition, it may be better clinical judgment to explore that individual, as occasionally an operable carcinoma may present itself which was thought inoperable. It is amazing at times to see the amount of distortion of the stomach due to carcinoma with apparently good health on the part of the patient.

Benign tumors of the stomach form a separate chapter. Their roentgenological evidence may be definite at times and indefinite at other times. However, if a benign tumor exists enough to give symptomatology, then it is a suitable case for surgical interference. Surgery should be done because occasionally some of these so-called "benign" tumors are malignant. The question of syphilis of the stomach will not be discussed at this time.

Whereas one may, from the clinical data, have little knowledge of the extent, size or location of a given ulcer, since the advent of the x-ray our knowledge of duodenal ulcer is not only greatly enhanced, but its frequency in reference to gastric ulcer has been more definitely known. Many complex problems relating to this portion of the gastro-intestinal tract, have been clarified. Duodenitis, which can be discerned by means of the x-ray, was previously unknown until exploratory operations revealed that this condition existed. The irritability of the bulb, the transient filling and emptying are significant roentgenological features in the diagnosis. Whether this condition leads to actual ulcer formation is debated by many observers. However, in many cases, duodenitis yields to appropriate medical management and surgical interference may be entirely unnecessary.

The deformity of the bulb is no index as to the activity of the ulcer. A markedly deformed bulb may be present in a healed ulcer. Activity may only be determined through clinical evidence. The roentgenological evidence may indicate the type of treatment best suited for any given case. Small deforming ulcers, when not at the pylorus, yield, for the most part, to adequate medical management. However, those that are penetrating or obstructing are probably better handled surgically, and the same may be said of penetrating lesions of the second portion of the duodenum, especially when they are associated with periduodenal adhesions making marked deformities.

If the roentgen ray has done nothing else, it has impressed upon the minds of clinicians the need for careful consideration before handling any given case medically or surgically. The failure of medical management may be due to the improper selection of cases for such management. Too many ulcers are handled medically at the outset because of lack of appreciation of the x-ray evidence and the same is true of the surgical treatment of many early ulcers. There are patients with typical ulcer syndrome extending over a period of years in whom we find, upon careful consideration from the x-ray evidence, that no ulcer exists. These patients are put through repeated ulcer managements, but it is doubtful in any given case, with symptoms simulating ulcer for six months or more and no x-ray data to support the clinical evidence, if there ever was an ulcer in the beginning. Of course, one must admit that all ulcers cannot be visualized or properly filmed, but in the hands of a competent roentgenologist with increasing experience, this number becomes relatively small. The burden of proof in this group of cases with a symptom complex referable to ulcer and not supported by roentgenological evidence, rests upon the clinician and not upon the roentgenologist. Our increasing knowledge of symptom complexes referable to the stomach and duodenum has made us realize that there are many conditions simulating ulcer where ulcer does not exist.

Time does not permit a lengthy discussion of duodenal stasis, but its clinical significance is not properly appreciated. Many lesions, even ulcer, various anatomical conditions and anomalies may produce this stasis. That it exists there is no question from the roentgenological standpoint and one may now clinically suspect that duodenal stasis is present because we have learned from the x-ray the explanation of this clinical phenomenon. Visceroptosis probably owes most of its symptoms to the associated duodenal stasis. Cholecystitic disease has, as its associated pathology, duodenal stasis and the same may be said of appendicial disturbance. Nausea, vertigo, headaches, and anorexia are often associated, and if the stasis is marked or well-developed, vomiting, with its impending alkalosis, may ensue. This condition is easily recognized fluoroscopically.

The extent, duration, and amount can only be properly ascertained by this method. It is only with this data, along with our blood chemistry and urinary findings, that these cases can be scientifically treated. Some yield to appropriate medical management, while in others surgical interference may be necessary. The outstanding clinical fact is that these patients do not tolerate alkalies very well as they are in a state

of potential or real alkalosis, depending upon the extent of pathology present.

I have tried to give the clinical significance of some of the roentgenological findings of the stomach and duodenum. These statements are based upon clinical as well as roentgenological observations and my main purpose in presenting these facts is in the hope that there will be a closer cooperation between the internist, the surgeon, and the roentgenologist before deciding the management in any given case in order that the best interests of the patient may be conserved.

DISCUSSION ON PAPERS OF DR. BEYKIRCH AND DR. PORTIS

Dr. Harold Swanberg (Quincy): Doctor Beykirch's paper was an interesting presentation, but I confess that I am not prepared to discuss it for I do not wish to expose my ignorance in regard to recent investigations in gastric physiology and chemistry.

With Dr. Portis' paper I feel quite at home. It seems to me that Doctor Portis has presented his subject in a very complete and comprehensive manner, considering the short time allotted him.

It is rejoicing to a radiologist to have an internist like Doctor Portis acknowledge so freely his indebtedness to roentgenology in the diagnosis of gastro-intestinal disease. I can recall when I first became interested in radiology, over fourteen years ago, the considerable difficulty we experienced in convincing some physicians that a duodenal or gastric ulcer could actually be demonstrated on the rotentgenogram. This has all been changed. Now every physician accepts the ability of the rotentgenologist, in the great majority of cases, to show these lesions quite successfully.

I know of no group that is more appreciative of the help the radiologist can give in the diagnosis of gastro-intestinal disease than the surgeons. If you have the opportunity, do not fail to read the masterful address of Lord Berkeley Moynihan that appeared in the Journal of the British Medical Association in 1925.[1] This was the McKenzie-Davidson Lecture given before the First International Congress of Radiology in London. I know of no more glowing tribtue to the value of the roentgen rays in the diagnosis of gastric and duodenal disease than this oration by Mynihan.

The more one does gastro-intestinal roentgenologic work, the more he is impressed with the relatively large number of patients with negative x-ray findings. By this, I mean that many patients with obscure digestive disturbances referred for x-ray examination have a roentgenologic normal stomach and duodenum. This may be due to a purely functional condition and we are therefore unable to diagnose the condition roentgenologically. Because of the relative frequency of these negative findings I always urge a gall-bladder examination when the gastro-intestinal x-ray examination is negative. The symptomatology is so confusing that few gastro-intestinal cases can be considered as studied adequately with the x-ray unless an x-ray examination of the gall bladder with the dye test (cholecystography) is also made.

There is much to be said concerning the value of various roentgenologic procedures, such as the use of the fluoroscope, the value of multiple films, etc., but time will not permit a discussion of same.

I wish to close with this one thought, that is, the radiologist should be given the opportunity to recheck on his findings in gastro-intestinal disease, in the same manner as does the clinician. The clinician rechecks his physical findings from time to time, during the care of the patient, because he knows that new information may be found on a subsequent examination. It is no more than fair that the roentgenologist be given the same opportunity.

Dr. Sidney A. Portis (Chicago): I should like to discuss Dr. Beykirch's paper before discussing some additional facts of my paper.

It is undoubtedly true that the increasing experimental evidence has shown that pylorospasm is a factor in the production of duodenal ulcer—so much so that some physiologists working on experimental ulcers have stated that, because of their inability to produce pylorospasm in animals, they have gone as far as they can in working out the etiology of ulcer. The presence of extra-gastric and extra-duodenal lesions with ulcer, with their associated pylorospasms, is clinical evidence to support this theoretical contention. There is increasing evidence to support the old clinical idea that one of the outstanding facts in the chronicity of ulcer is the question of free acidity. How important a role this plays it is difficult to evaluate at the present time. However, Mann's classical experimental ulcers producing in the unneutralized jejunum over which a constant flow of unneutralized acid is constantly pouring, have brought home to us, clinically, the fact that many clinicians have underestimated the value of acidity. Whether or not complete neutralization is of definite importance in the management of ulcer is still a debatable question because we know that there are more ulcers in patients, which are unrecognized than recognized, that more ulcers have healed without medical management than those which have suitable medical or surgical therapy. And finally, necropsy evidence has shown us healed ulcers in patients with no clinical history to suspect that an ulcer existed.

I want to thank Dr. Swanberg for his kindness in discussing my paper. However, I am not discussing the question of gall-bladder this morning. I wish I could debate that question with the roentgenologists. Many roentgenologists are prone to tell us, and I have myself been guilty of this, that a gall-bladder is negative and that no gall-bladder pathology exists, just because we have a negative cholecystogram. Let me impress upon you that there is no roentgenological evidence at the present time to make an early diagnosis of gall-bladder pathology, and the clinical evidence that gall-bladder pathology exists is, to me, far more con-

1. Reproduced in The Radiological Review (Chicago), 3:33-34, Mar., 1931.

vincing than the roentgenological evidence. I have seen it repeatedly demonstrated, even in the hands of the so-called "experts," that, with negative cholecystograms, pathology does exist in the gall-bladder, and I want to impress that upon you especially; although it is not relevant to this paper, do not think that a gall-bladder disease does not exist just because there is a negative cholecystogram.

And finally, I should like to impress upon you that roentgenologists should have an opportunity to review their roentgenological evidence again when there seems to be a discrepancy as to findings. Too few roentgenologists are willing to take the trouble to go to the operating room to see *why* there is a discrepancy between the roentgenological findings and those that actually exist when the abdomen is opened. Many roentgenologists are probably busy in their own laboratories at this time and it is inconvenient for them to be present, but, in the last analysis, the true measure of a roentgeologist is his zeal and his eagerness to see how his roentgenological diagnosis compares with what he finds at the operating table. No patient of mine, although I fluoroscope my own and see them clinically, is ever opened up at the operating table unless I am present to see the pathology, because I want to know how correct was my clinical interpretation. The so-called "second-hand" information is never as valuable as seeing it for ones' self.

And, in the final analysis, the solution of the old problem—the debate between surgeon, internist and roentgenologist—will only be settled through wholesome cooperation, wholesome exchange of views, for, after all, we, as physicians, are primarily interested in devising the best therapy to give the best end-results with the least possible morbidity and mortality.

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FACTORS IN THE REDUCTION OF THYROID MORTALITY*

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In order to reduce the mortality incident to thyroid surgery, every hospital should, from time to time, make a survey of its own work in this class of cases. For purposes of comparison, after making such a study, it is desirable to know what constitutes a creditable mortality. Table I is compiled as a sort of cross section of thyroid work. It will be noted that the surgical mortality in 36,322 thyroid cases, including 5,354 ligations, is but 0.8 per cent. In the larger, highly organized clinics the mortality is in the neighborhood of 1.5 per cent, or less. In the smaller series of cases reported the mortality is approximately 3.0 per cent. In the unpublished statistics of smaller hospitals it is not unlikely that a considerably higher mortality prevails.

A study of thyroid surgery at the Evanston Hospital from 1920 to May, 1931 is shown in Table 2. This table indicates that first, generally speaking, the occasional operator has the highest mortality; second, that the mortality for the entire series, 4.1 per cent, is too high; and third, that the mortality is increasing rather than decreasing.

Table 3 indicates the causes of death assigned by various authors in thyroid mortality. It would seem that in the Evanston Hospital series that the group associated with dyspnea is large and might have been smaller had tracheotomy been resorted to more frequently. Table 4 suggests the incidence of various postoperative complications.

Below are listed in outline form the factors which seem important to bear in mind in making an effort to reduce the mortality in thyroid surgery.

1. Early diagnosis and operation.
2. Joint supervision of the patient by surgeon and internist during the entire course of treatment, both preoperative and postoperative. (Stressed by Pemberton.)
3. Proper preoperative management:
   a. Rest in bed until the patient's clinical condition warrants operation. This may require from three to ten days.
   b. Observation of basal metabolism rate.
   c. Administration of Lugol's solution, gtts. 10-15 t.i.d. preoperatively.
   d. Digitalis preoperatively in selected cases—particularly those with auricular fibrillation.
   e. Give plenty of food.
   f. Careful selection of best time for operation.
   g. For delirium of thyroid crisis.
      a. Morphine.
      b. Ice packs. (Percy employs several hundred pounds of ice.)
   h. Phenobarbital grs. iss b.i.d. Nembutal grs. iii (at night) or intravenously, Paraldehyde intravenously.

*Read before the Evanston Hospital Staff Conference, May 26, 1931.

i. Avoidance of mental excitement. Restriction of visitors.

j. Realization that the worst risks are adults with marked toxic symptom with recent large loss of weight, cardiac decompensation, dehydration, nitrous oxide anesthesia or ethylene to be preferred.

7. Principles to be kept in mind during operation.

a. Duration must not be too great (one fatal case at Evanston Hospital took three hours and fifteen minutes for performance.)

b. Do not hesitate to do two stage operation in severe cases. (In 1930 at Mayo Clinic 2.2 per cent. of the cases had two stage operations.)

c. Do hesitate to cut prethyroid muscles in cases with large glands.

d. Reduce to a minimum traction on and rolling out of the gland.

TABLE 1—MORTALITY IN THYROIDECTOMY AT VARIOUS CLINICS

Author	Clinic	Period of Report	Total No. Cases	Total Deaths	Mortality	Remarks
Crile, G. W., Proc. Internat. Assemb. M. A. No. Amer. (1929) 1930 V, 392.	Crile		20,000	100	0.5%	Ligations 5,354; Thyroidectomies 13,814, of which 10,125 for hyperthyroidism.
Pemberton, J. deJ., Boston Med. & Surg. Ju. 186:244 (quoted by de Courcy).	Mayo	1922	1,954	35	1.78%	
Pemberton, J. deJ., Ju. A. M. A. 85:1882, 1925.	Mayo	1924	1,928	10	0.58%	
Pemberton, J. deJ. Proc. Staff-Meet. Mayo Clinic 1931 6:151 (Mar. 11).	Mayo	(1 year) 1930	1,309	18	1.3%	Mortality: Exophal goitre 1.17, adenoma 0.63; adenoma with hyperthyroidism 2.31
Clute, H. M., Ju. A. M. A., 95:389, August 9, 1930.	Lahey		2,769	26	0.93%	
Percy, N. M., Am. Ju. Surg., 1929, 6:293.	Percy	(1 year) 1927	709	11	1.5%	All classes.
Smith, E. V., Tr. A. Resid. and ex-Resid. Physician Mayo Clinic (1928) 1929, 9:56.		Jan. 10, 1917, to Sept, 25, 1928	1,830	18	0.9%	
Seabrook, D. B., Northwest Med. 1929 28:111.	Portland	(1 year) 1927	524	3	0.5%	Mort. 1910, 14%; 1924, 3.6%.
King B. T. Northwest Med. 1928, 27:285.		1924 to 1928	800	11	1.4%	
DeQuervain, F., Presse, Med. 32:69 (quoted by deCourcy).			2,200	18	0.84%	
deCourcy, James L., Am. Surg, 1929, 89:203	Cincinnati	1927	388	1	.0025%	
Payr, E, Zentraibl, f. Clive, 1929, 56:834.			300	9	3.0%	
Noehren, A. H., Am. Surg., 93:1045.	Buffalo Thyroid Clinic		100	1	1.0%	
Joyce, T. M., Northwest Med. 25:423 (quoted by deCourcy).		1926	923	22	2.3%	
Heyd, C. G., Am. Surg., 91:504.		Jan. 1, 1927, to June 30, 1929	148	4	3.0%	
Dowd, C. N., Am. Surg., 80:391, 1924			150	5	3.3%	
Evanston Hospital.		1920 to 1931-May	290	12	4.1%	
Totals			36,322	304	0.8%	
Total without Crile			16,322	204	1.2%	

and instability of the nervous system, in children with hyperthyroidism, in adults having had a well marked hyperthyroidism for over a year (Clute), in adults over forty, and in adults weighing but about one hundred pounds.

4. Examine vocal cords before operation.

5. Selection of proper type of operation.

6. Correct choice of anesthesia. General anesthesia preferable to local. Avertin and

e. Ligate superior thyroid artery close to gland.
f. Include portion of gland with inferior thyroid artery.
g. Leave ten to twenty per cent. of gland and suture through it. (Pemberton.) Others prefer to leave less.
h. Thin layer of isthmus over trachea advised by some as a prophylactic measure against tracheitis.
i. Search for parathyroids in removed specimen and if found graft in sternomastoid muscle.
j. Meticulous hemostasis.
k. Drainage.
l. In very toxic cases leave wound open. (deCourcy.)

TABLE 2—THYROIDECTOMIES AND LOBECTOMIES AT EVANSTON HOSPITAL
1920 TO MAY, 1931

	Total Cases	Deaths	Mort. per cent.
Group 1 (Surgeons Having Any Mortality)			
Dr. A	170	6	3.5
Dr. B	36	1	2.8
Dr. C	30	1	3.3
Dr. D	13	1	7.6
Dr. E	7	1	14.4
Dr. F	5	1	20.0
Dr. G	1	1	100.00
Total	262	12	4.5
Group 2 (Surgeons Having No Mortality)			
Dr. H	8	0	00.0
Dr. I	6	0	00.0
Dr. J	4	0	00.0
Dr. K	2	0	00.0
Dr. L	2	0	00.0
Dr. M	2	0	00.0
Dr. N	1	0	00.0
Dr. O	1	0	00.0
Dr. P	1	0	00.0
Dr. Q	1	0	00.0
Total	28	0	00.0
Total for all Thyroidectomies	290	12	4.1
Group 3 (By Periods)			
Nov., 1920 to 1925, inclusive, All men	71	1	1.4
1926 to May 1931, all men	219	11	5.0

TABLE 3—CAUSES OF DEATH

Reporter	Total deaths	Thyroid Crisis "Storm"	Cardiorenal	Hemorrhage	[2] Infection	Anesthetic	[3] Embolism	Stridor Dyspnea	[2] Misc. Typhoid Pneumonia, etc.
Clute	26	19							
King, B. T.	11	2	6			1			2
Smith, E. V.	18	4	7	4	2	1			
Seabrook	7			2			5		
Evanston Hospital	12						1	5	

8. Principles in postoperative mangaement.
a. Lugols by rectum and by mouth. NaI intravenously if necessary.
b. Reopen wound and pack without hesitation in cases of hemorrhage with pressure symptoms. (This was necessary in 0.9 per cent. of Seabrook's cases.)
c. Do trachectomy early in cases of severe dyspnea and cyanosis. Abduction paralysis of both cords will soon exhaust patient unless tracheotomy is done. Tracheotomy is also necessary in severe cases of tracheitis and in cases of tracheal collapse.
d. Ice packs for hyperpyrexia.
e. Morphine.
f. Parathormone and calcium in cases of tetany.
g. Restriction of activity as well as careful medical observation for a period of three months postoperatively.

TABLE 4—COMPLICATIONS FOLLOWING THYROIDECTOMY

Reporter	Loss of voice; unilateral or bilateral-recurrent, laryngeal, injury	Tracheitis	Infection	Tetany	Hemorrhage Hematoma	Recurrence	Total No. cases
Evanston Hospital	3		2	2	4		290
Raffi, A. B., New York State J. Med., 1930, 30:1412	2	2		2	2	4	170
Seabrook	Bilateral 3			4	20		2,200

HINDSIGHT: OR HOW TO LIVE A HUNDRED YEARS.*

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There is a saying that you cannot teach an old dog new tricks, so I shall direct my remarks to the young doctors. I shall not attempt to tell you anything about the science of medicine that you do not already know, but will call your attention to a few things about the practice of medicine that might not receive consideration until you were too old to derive much benefit

*Read at the Annual Clinical Meeting of the Alumni of the University of Illinois Medical School, June 17, 1931.

from them. It has been said that our hindsight is better than our foresight, and I offer a dose of my hindsight.

Observation has shown that vertebrate animals, under favorable environment, live about five times as many years as it takes for their development to physical maturity. Reasoning by analogy it has been maintained that man, when living under favorable conditions, should live to be about a hundred, or five score years, instead of the traditional limit of three score and ten. Yet men rarely do so, and the doctor more rarely than other men in similar stations of life. The inference is that we don't die of old age, but that we die prematurely of other causes.

Statistics tell us that the prevalent causes of death among physicians are pneumonia, heart affections, nephritis, diabetes and apoplexy, most of them connected with high blood pressure. These avoidable affections cut short the career of many who seem headed for a vigorous and useful old age. Many die between the ages of forty and sixty, and many more between sixty and seventy. Statistics also tell us that lawyers, clergymen, teachers and bankers average longer lives than physicians, and that professional athletes die younger than men of sedentary habits. Housewives who survive their childbearing period are apt to outlive their husbands by many years. They lead more protected and methodical lives than their husbands who, in business life, are exposed to unhealthy conditions in overcrowded or poorly ventilated rooms or public halls as well as to the perils of inclement weather on the streets. Business cares and responsibilities also have a greater disturbing effect upon their nervous systems and vital functions, and interfere more with the regulation and limitation of their activities than do the domestic cares and responsibilities with those of the wives.

Now let us see for comparison how the busy doctor is made to sin against nature.

The popular practitioner habitually gets insufficient sleep and relaxation. He is often kept under prolonged strain by exactions of wealthy or important patients with troublesome or serious affections. His meals are apt to be disturbed or irregular or hurried, and he is subject by night or day to undue exposure in bad weather. Likewise, the younger practitioner is at times similarly overworked during the prevalance of epidemics, or of seasonal diseases, or the occasional bunching of obstetrical cases, etc. To tide himself over these strenuous times that derange his functions and exhaust his reserve energy, the doctor is apt to take stimulants or sedatives for his feelings, and to overeat to prevent, or to recuperate from, physical exhaustion, and thus to transfer the burden and the depression and exhaustion to the organs of digestion. And when he takes a vacation he takes a short one that does not restore him completely, or takes a strenuous golf vacation that tires rather than rests him. It is evident that a man who lives under such habitual or occasional strain cannot live to the age of a hundred years.

Hence, my advice to the young doctor is to begin while he is young to pay attention to the diseases that doctors usually die of, as they are related to the kind of practice he expects to indulge in. He should study himself, and make use of all the modern means of diagnosis for the discovery of the beginnings of these statistically fatal diseases, or of the conditions that would render him susceptible to them. He should for that purpose have a thorough general examination made and recorded; and two or three months afterward, another one as a check upon the first one; and then every year or two, as well as after epidemics and periods of unusual strain upon his powers of endurance. In that way he will know at all times what his condition is, what his tendencies are, and where danger lurks. If he waits for signs and symptoms to prompt him, he will always be a little too late to prevent trouble.

Without reference to such examinations the busy practitioner should, at trying times and seasons, have the help of a nurse or partner or a younger doctor of the neighborhood, remembering that if he dies twenty or thirty or forty years earlier than his system was originally wound up for, nobody will give him credit for having killed himself in his or her behalf.

As a clinical contribution to the subject I will now give a brief history of my own case:

When thirteen years of age a row of large, indurated, tubercular glands appeared on the left side of my neck. They disappeared after a few years, to be followed by several smaller glands in the left axilla, which lingered until middle age. In my early manhood I had many mild and a few fairly severe attacks of plastic pleurisy in the upper left side of the thorax,

and wore the then popular porous plasters off and on for pleuritic pain for several years. When a student I had quite a little so-called dyspepsia, which was usually temporarily cured by pedestrian tours in the mountains. But it always returned, to be finally cured by dieting as recommended by Dr. Frank Billings when I consulted him for neuritis, and Dr. William A. Pusey when I consulted him for recurring eczema. My hemoglobin, which in early adult life had been around or above 80 per cent. stayed after that below 80, and went down to 70 whenever I was overworked. Trying and pushing the use of all kinds and amounts of nourishment did not help it any, hence I began to take notice of my limitations. One by one I gave up my strenuous athletics, such as tennis, swimming, horseback riding, mountain climbing and finally golf, and depended largely upon walking and Indian club exercises. I refused many opportunities to do work outside of routine practice that might have added to my influence and reputation, but would have worn me out prematurely. Every winter since I was fifteen years old I have had severe attacks of bronchitis, and have become unusually susceptible to the infection of infiuenza. I had a severe attack of bronchopneumonia three years ago, and a mild attack a year ago. After a careful examination by Dr. R. H. Babcock four years ago for a slight dyspnea that followed active exercise, I asked him if I had anything to fear from the condition of my heart. He said, "No, that I was more likely to die of bronchitis." The next winter I spent in Florida and had my severe attack of bronchopneumonia while there. This convinced me that he was right, and I again took notice, and as a result the bronchial signs and symptoms have since been steadily improving. Now that I know where the danger lies I expect to be able to stave off the fatal attack for many years.

Had I, who began adult life with signs and symptoms of serious infirmities, and with an incurable anemia due to exhaustive physical exercise as well as mental strain, begun early to have personal examinations of all kinds made; and had our methods of diagnosis been developed then as they are now; and had I not always waited to be prompted and guided by compelling symptoms, I feel sure that I would have come through to my present age in better physical condition and with a chance to live many more years, although I could not have expected to live through the norm of five score, as many of you can if you will.

Let me beg of you not to start out in life nursing the naughty notion of overworking and making a world-wide reputation in a few years even if it should kill you in middle age or soon after that. When the time comes to die your feeling will change. You will then wish to live a generation or two longer to comfortably enjoy the rewards of a life that had been too busy and strenuous to admit of anything more than a restless, feverish enjoyment. By living moderately and thus avoiding that bugbear, senility, you can have a long life of self-congratulation and contentment which is much preferable to a comparatively short life of feverish triumphs, and you will be able during the long life to accomplish as much or more in the end. It was not necessary for Nicholas Senn, John B. Murphy, Charles T. Parkes, A. E. Halstead, and A. J. Ochsner to kill themselves so early by intensive work. Ochsner had plenty of physical exercise in his work during his later life, yet he would arise early to have his horseback ride before breakfast. He probably thought, without thinking it over, that he needed the extra physical exercise to keep him strong and active and enable him to live longer, while he really needed at his age more rest before breakfast to make him live more slowly and thus longer.

To conclude, I would like to express my hindsight about senility, an infirmity which need not necessarily be the harbinger of old age. Philosophers, scientists, teachers and other brain workers who live a busy yet methodical and quiet life, live long lives and often retain their mental vigor to the end or near it. Methodical mental work seldom causes senility. Worry, excitement, loss of sleep, disappointment, discontent, brooding, grief, mental shocks, irretrievable misfortune, a want of relaxation, etc., have much more effect. Physical hard work continued during a long lifetime would bring it on earlier if such men kept on with their hard work as long and as continuously as men of sedentary habits so often do. General muscular activity requires more sleep, more food and greater endurance than does methodic brain work.

If such are the facts, it is possible for the physician who is content with a moderation and

regulation of his activities according to the laws of Nature and the character of his own limitations, and who takes all possible precautions against infections, to live into his fifth score of years without bringing on senility sufficient to interfere with some usefulness to others and considerable enjoyment of his own life.

I suppose this advice is quite like that you would give to patients but forget to give to yourselves, and it therefore should be given to you.

LONGSIGHTS

1. Moderation, everywhere and every time.
2. Don't look upon your muscular strength and enthusiasm for work, as proofs of continued good health and great endurance.
3. Don't let reckless rivals set the pace for you.
4. Don't ignore your limitations.
5. Don't commit slow suicide by overworking, overeating and over-worrying.
6. Eat a little more each year till you are thirty, after forty eat a little less each year till you are a hundred.
7. It is safer in the end to be a sage rather than a Sampson. It is unwise to be both.
8. Slightly undersize, slightly underweight and slightly under the weather, conduce to longevity.
9. Few men die of starvation, but many men slowly eat themselves to death.
10. We seldom die of old age, we die of disease or other accidents.
11. Shun the germs of pneumonia. They lie in wait for the busy doctor.
12. Begin the quiet life before premature senility forces it upon you.
13. Senility and arteriosclerosis at seventy, although prevalent, are abnormal.

ACUTE PROSTATITIS SECONDARY TO EXTRA GENITAL INFECTIONS: WITH REPORT OF CASES

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A few years ago for one to remark that acute prostatitis resulted from an acute inflammation in some other system of the body would occasion some question as to the accuracy of such a premise. Sturgeon,[1] in 1916, reported a case of abscess of the prostate metastatic or secondary to an infection of a hand. Mention has been made sporadically on several occasions since, but Von Lackmum has more or less popularized the hematogenous and lymphogenous origin of a goodly number of cases of prostatitis within the past two or three years. He has discussed primarily the chronic types of prostatitis.

Halloway and Von Lackmum[2] say: "Although gonorrhea is the initiating cause of chronic prostatitis in the majority of cases, organisms borne through hematogenous and lymphogenous routes may also be causes. It is likely that gonorrhea is responsible for only 75% to 80% of the cases. Influenza, pneumonia, typhoid fever, measles, septicemia, and other infectious diseases are apparently definitely responsible for a certain number of cases."

Von Lackum and Major[3] "Believe that the incidence of the extension of the gonococcus to the prostate gland and seminal vesicles is small. In view of recent data, it would seem that there is active presisting non-specific prostatitis or vesiculitis of true systemic origin or a quiescent infection of local origin, and that in some cases this is activated by the invasion of the urethra by the gonococcus.

"In cases in which a history of gonorrhea is not elicited the same strain of organism may frequently be isolated from the prostatic secretion as that present in infected tonsils or in periapical dental infections. Therefore, it would be expected that there would be a higher percentage of cases of dental and tonsillar infection in the non-gonorrheal cases than in cases in which there was a history of gonorrhea. This expectation is substantiated."

It is rather common knowledge at the present time that a prostatitis and seminal vesiculitis may follow chronic inflammations in other parts of the organism. That remote infections, as foci of infection, play a significant part in the etiology of non-specific prostatitis, is well known. In addition, these same factors, not infrequently, play a part in the chronicity of specific prostatitis or in a prostatitis following a specific infection. It is a fact well known to all doing venerology that an acute inflammation of the upper air passages or of the adjacent accessory air sinuses are prone to cause an exacerbation of

a chronically inflamed prostate. It is just as well known that a constipation or inflammation of the lower bowel is likely to make a prostatitis more intractable to treatment.

The time was not in the far distant past when we made a diagnosis of prostatitis in an individual who gave no history of a Neisserian infection, that we did not make a mental reservation, in the majority of cases, that the patient was lying; although tact induced us to hold our counsel on that particular score.

Mention was made in a previous article[4] of the part played by improper sexual hygiene in the causation of a non-specific prostatitis. It is well to bear in mind that anything which causes a chronic congestion of this organ will eventually result in an inflammation. And while chronically congested, its resistance is lower, so that it is then more readily inflamed by bacteria from the lower bowel, so close by; or form a haven for bacteria from distant foci, as tonsils, teeth, pharynx, larynx, and accessory air sinuses. The severity or acuteness in the prostate will be comparable to that in the organ or tissue which served as a cause of the infection. If the original source be acutely inflamed, the prostate is more likely to be acutely affected, while the reverse is true if the original source is chronically inflamed.

Kretschmer, in 1920,[5] remarked that "Metastatic abscesses of the prostate are rare. One does not read very much about them in the literature." In a later article[6] stating, "it is a well known fact that abscess of the prostate may occur as a complication of some of the acute infectious diseases, such as typhoid fever, mumps, and influenza, they have been secondary to appendicitis, boils, carbuncle, phlegmon, and acute tonsillitis."

During the past four years I have seen four cases of acute prostatitis secondary to acute inflammation of other foci. It is quite likely that two of these cases would have been designated as prostatic abscesses by many urologists; however, I am a bit conservative in diagnosing abscesses of the prostate or in advising operative interference, generally reserving operation for those in whom there is threatening an appreciable amount of destruction of the glandular tissue; or in those with acute retention of urine where operative interference is imperative because of failure of palliative measures to effect relief.

Case 1. B. L. Single, aged 22, examined May 14, 1928.

Gave no history of venereal disease. Acute sore throat developed about ten days or two weeks before examination. Associated with fever of undetermined degree. The throat is much improved now. Five days ago urinary symptoms began and increased in severity until the past two days when they have been very severe.

Examination revealed a subacute tonsillitis, an acute prostatitis and seminal vesiculitis. The compliment fixation test for gonorrhea was negative. The examination was negative in other particulars.

Case 2. A physician, aged 29.

Treated by well known urologist for gonorrhea 9 years before. Uncomplicated by prostatitis. Recovered in two weeks, dismissed in three with the assurance the prostate was not involved.

Nearly three weeks before examination, developed acute sore throat with chills and fever. He has been treating with laryngologist for acute laryngitis. Six days ago developed slight urethral irritation and mucoid discharge; three days later the classical symptoms of acute prostatitis. Examination revealed an acute prostatitis with probability of beginning abscess formation.

Case 3. A Swiss exchange student to Johns Hopkins University, aged 22.

Contracted "cold" and sore throat from exposure while meeting his father in Lakehurst, a passenger on the Graf Zeppelin. Two days following the attack of sore throat he experienced severe pain in "rear" with difficulty in voiding, straining, and a small stream. Two days before examination was relieved of acute retention by catheterization. Examination revealed temperature of 103.2° acute prostatitis with likelihood of beginning abscess formation. Compliment fixation test for gonorrhea negative.

Case 4. Also a physician, aged 26.

No history of gonorrhea. Has spastic colitis with repeated exacerbations, the last immediately preceding present urinary complaint.

Three days ago noticed a little muco-purulent discharge, with mild urethral irritation. He made smears repeatedly which were negative for gonococci. The symptoms increased in severity with suprapubic pain, pain in prostate and tenesmus. Examination revealed an acute prostato-vesiculitis with the vesiculitis predominating. The colitis has since acted as a barometer for the urinary condition. When the colitis becomes worse there follows an exacerbation of the prostato-vesiculitis.

In the preceding cases no etiological factor, other than that stressed in the summary of the case, could be demonstrated. These four are the only acute ones I have seen in which no other etiology could be ascribed. In case two, the former gonorrhea undoubtedly played no part as

the attack was mild and of short duration. Besides, it was declared to be uncomplicated by a competent urologist, and the compliment fixation was negative at the time of the attack of acute prostatitis.

Chronic inflammations of the prostate and seminal vesicles, secondary to extra genital infections, are much more common than the acute varieties.

My experience coincides very closely to that of Halloway and Von Lackmum in that I find gonorrhea pays no etiological rule in from 20% to 25% of cases.

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THE EFFECT OF VITAMIN B COMPLEX DEPLETION ON INFANT MORTALITY, EXPERIMENTAL AND STATISTICAL STUDY*

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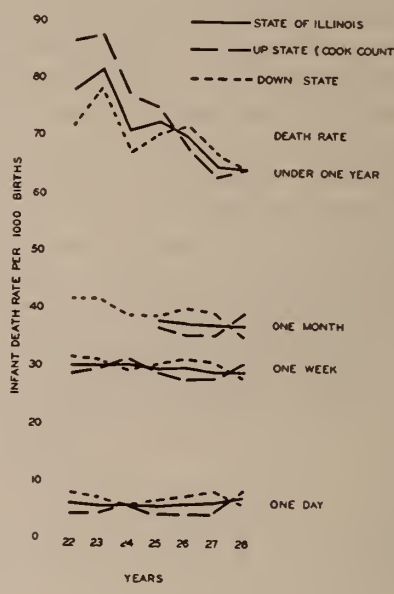
While breeding rats on controlled vitamin B complex diets, in order to determine the relation between vitamin B deficiency and maze learning ability,[1] we noted a high infant mortality in certain groups of rats on vitamin B complex deficient diets. This high mortality was of the first few days of life. High mortality of the first day, week and month of life of infants has been noted in most of the thickly populated districts of the world. While the death rate of infants under one year of age may be subject to quite wide variation in these districts, the death rate for the first day and week remains quite constant.

Graph 1 shows the death rate of infants less than one year old per 1,000 births in the state of Illinois. The rate for one day to one week is practically the same for each year during the period from 1922 to 1928, the reduction being from 29.9 to 28.8, while during the same period the total death rate for the state was cut from 82 to 65, or 17 per 1,000.

In Graph 2 we see that this means a cut in deaths of infants less than one year old from 9,821 in 1925 to 8,333 in 1928; this means that 1,488 infant lives were saved in 1928 over 1925.

However, during this period, of the infants who die the first week, there has been a change

GRAPH NO. 1



Delineated by
CONSOLIDATED ENGINEERING
CONSULTING ENGINEERS
CHICAGO ILLINOIS

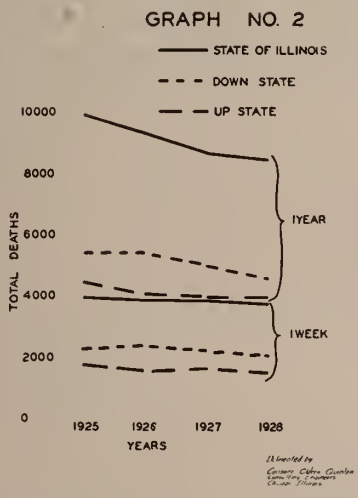
from 3,937 in 1925 to 3,724 in 1928 or 213 more infant lives were saved in 1928 than in 1925. Thus under the present conditions the total mortality of infants under one year has decreased 1,488 in the year 1928 but of this figure the reduction in deaths of infants less than one week old was only 213.

Graph 3 shows that 44% of the infants of the whole State of Illinois who die under one year, die under one week. In some counties this percentage runs as high as 55% while in others it is as low as 25%. Of this 44%, 18.5% comprises the figure for upstate (the Chicago metropolitan district) mortality and 25.5% the downstate. That is, the rural communities have, on

*From the Otto S. A. Sprague Memorial Institute and the Departments of Pathology and Psychology, the University of Chicago.

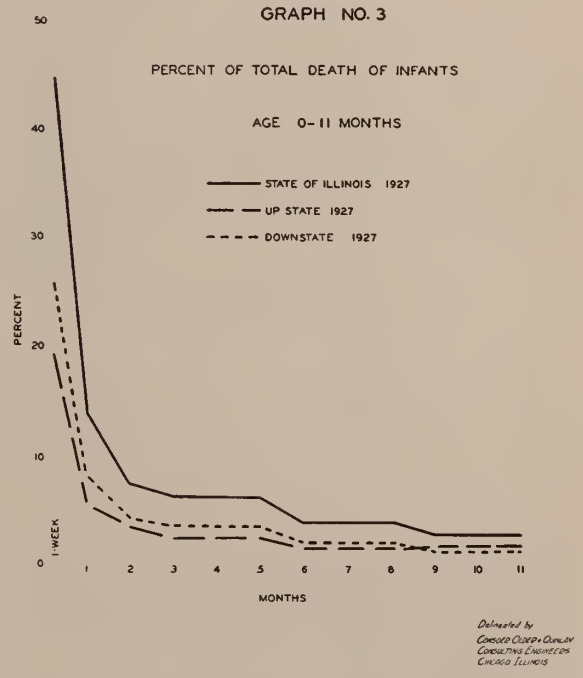
an average, a higher death rate for the first week of life.

Graph 4 is made from data of the death rate, birth rate, premature birth rate and the quantity of vitamin-containing foods consumed by the laboring classes. In general, this chart shows that when we have the high death rate under one month, and also the high premature birth rate, the mothers are on a diet which has



been proved by two separate authors[2, 3] to be deficient in vitamins, especially vitamin B. When the vitamin consumption curve is high the death rate and the premature birth rate are low. There are many causes of premature births and deaths under one month of age, but these curves suggest that there may be causal relation between the vitamin-containing foods consumed by the mother and some of the premature births and early death rate of the off-spring. With this idea in mind we studied the diets consumed by the large masses of people during the winter months as reported by Goldberger[2] and concluded that their chief deficiency was in vitamin B. Vitamin E is a reproductive vitamin but is quite widely distributed and is stored by the system over long periods of time so that these diets appear to be sufficient in respect to vitamin E.

Using rats as experimental animals, we accurately controlled the diet so that one group (18 females gave birth to 123 pups) was on a diet barely maintenance in vitamin B complex during the period of gestation while another group (32 females gave birth to 211 pups) was on a diet deficient in vitamin B complex while they were nurslings, and a third group (32 females gave birth to 283 pups) as a control was on a normal, well-balanced vitamin diet throughout the lives of both the mothers and infants. The infant mortality resulting from these diets, except the control group, is shown in Graph 5*. We see that exactly the same type of infant mortality curve is produced when the mothers are on a diet barely maintenance in vitamin B during the period of gestation as is shown for human statistics in Graph 3. At this time it is well to mention the types of labor experienced by the different groups of these rats, the labor being more altered in the females who were on the diet deficient in vitamin B when they were nurslings. The delivery of a female rat on a vitamin balanced diet is accomplished with the greatest of ease; they are very little inconvenienced by it, eating and playing around as



the delivery of the pups proceeds; however, the labor in the rats restricted in vitamin B in some incidences seems to be longer than usual; in six of the females who were depleted of vitamin B while nurslings, at the onset of labor their abdomens became greatly distended and they would not eat or drink during this time; after several days of this distention, during which time blood

*The infant mortality of the control group was 8.5%, all dying on the third day from starvation; the two mothers refused to care for their litters.

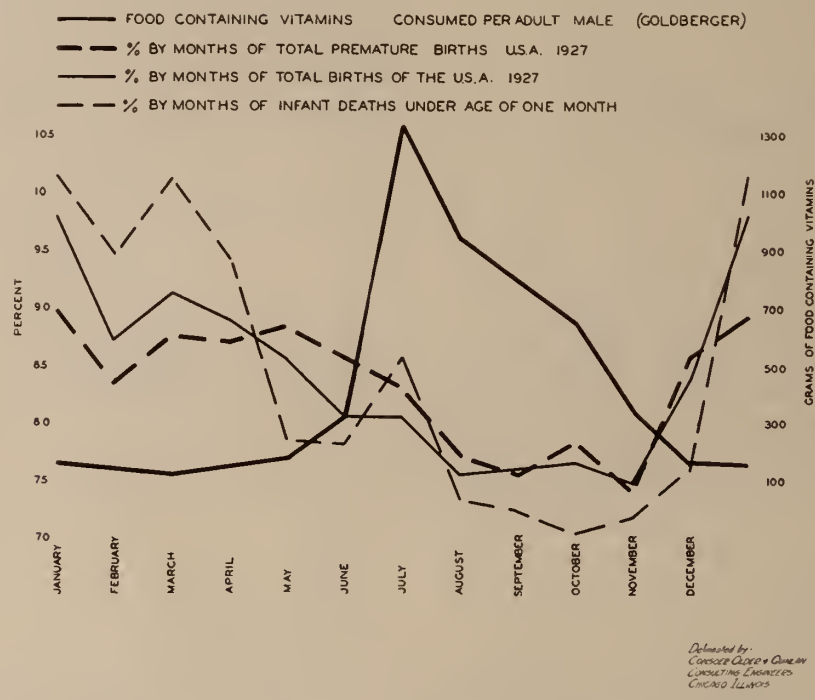
was discharged from the vagina, litters of dead pups were born. The convalescence of these mothers required several weeks; ordinarily, after a normal delivery, there is practically no period of convalescence. The pups which died during the first few hours of life and up to the first two days had a difficult, labored respiration; others, whose respiration was apparently normal, never attempted to nurse even though they were placed with mothers who tried to suckle them. In one case we watched the delivery and observed that the pups were born blue and did not begin to breathe; with artificial respiration we were able to establish a normal pink color but these pups had a labored, gasping respiration and died after several hours.

It is plainly seen that many rat pups born of mothers whose diet is deficient in vitamin B are too weak to live. In the rat it is necessary that the newborn pup be born strong enough to withstand several hours of starvation waiting for the mother's milk, while in the human every infant must be born strong enough and with reserve enough to withstand about three days' starvation, as this is the period ordinarily experienced before the appearance of adequate quantities of breast milk.

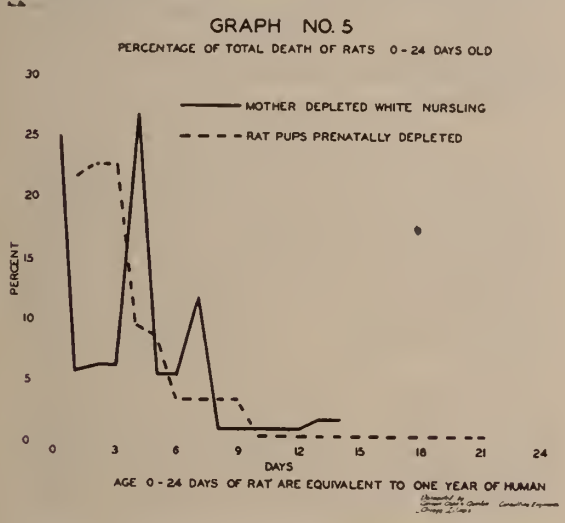
We appreciate that it is hard to get a basis of comparison between the age of the rat and the age of the infant. The human age equivalent of an adult rat is obtained by multiplying the rat's age by 30. On this basis a rat one hour old is equivalent to an infant 30 hours old. If this criterion was adhered to the infant mortality of the rats up to 3 days would be equivalent to the infant mortality of the humans up to two and one-half months old. However, such a comparison is not permissible because the rat pup is born with reserve enough to live 3 days without food while we feel confident that the human infant would barely withstand 6 to 9 days without food. So at best the ratio of these two sorts of infants at birth is 2 or 3 to 1 instead of 30 to 1; due to the early very rapid growth of the rat pup this ratio of 2 or 3 to 1 soon approaches the 30 to 1 standard. We believe that we are justified in comparing the death rate of the rats under 3 days of age with that of the human infant under 1 week.

Table 1 shows Goldberger's[2] analysis of the diets of working people showing the food actually consumed. Goldberger's work over a period of seven years shows that when work is plentiful a barely adequate vitamin diet is consumed by

GRAPH NO. 4



the working people, while when it is scarce a diet inadequate in vitamin B is consumed for a number of months each winter; in fact, an inadequate diet is consumed for so long a period of time that symptoms of vitamin B deficiency can be detected in the working classes by nutritional experts; in other words, the diet of the large masses of the American people during the winter is deficient or barely adequate in vitamin B; by a misfortune these are the months of higher birth rates and still higher infant mortality, whether it be under one week or one month of age or born prematurely. We have produced experimentally in rats a similar infant mortality by restriction of vitamin B in the diets of the



mother during the period of gestation, approximately equivalent to the deficiency experienced by many women, and it seems reasonable to conclude that a normal healthy baby can only be born to a mother who is on an adequate diet. If the infant is depleted in utero it may be only strong enough to live part of the first day or, depending upon the degree of depletion, as long as the first week; others may live longer depending upon the post-natal care.

Any move to cut the mortality of the first week, which will no doubt influence the mortality of the first month, must be a move to bring about the adequate feeding of the mother during the last few months of pregnancy. The nutritional requirement of the fetus in utero the first six months is but slight as the fetus at this time is small; the last three months is the period of the greatest gain in weight of the fetus, it doubles its weight in the last six weeks of intrauterine life.

TABLE 1. QUANTITY OF FOOD CONSUMED DAILY PER ADULT MALE (GOLDBERGER)

	Vitamin Inadequate Diet Oz.	Vitamin Adequate Diet Oz.
Fresh meats	2.0	11.0
Cured lean meats	.5	...
Canned meats	.3	...
Eggs	1.9	11.0
Fresh milk	15.0	28.8
Butter	.6	1.5
Dried peas and beans	1.3	...
Wheat flour	14.4	12.9
Cornmeal	5.3	6.3
Salt pork	1.1	11.2
Lard and substitutes	1.4	1.2
String beans	...	4.4
Other green vegetables	...	16.8
Other canned vegetables	.7	...
Fresh fruits	.5	20.3
Dried fruits	.5	...
Canned fruits	.5	...
Irish potatoes	...	2.1
Fresh sweet potatoes	1.3	...
Sugar	1.2	1.3
Syrup	.5	...

Depletion of the human mother of fundamental factors of diet is quite common; one of the first signs of it is seen in the deterioration of the teeth which occurs frequently by the middle of pregnancy. During the period of gestation the mother must be on a diet which not only contains a maintenance quantity of vitamins for herself but an additional quantity for the fetus. The fetus at birth, in order to have normal resistance to carry on its existence independent of the mother, must have a storage of vitamins some of which will carry it as long as six months. If this storage is not present and the child is markedly depleted in vitamin B complex our experimental work on animals proves that it will die the first day of life or live a few days until its small reserve is completely exhausted. To cut our state's infant mortality of 44% of all who die the first year, or the 3,724 out of 8,333 total first year deaths, we must teach and enable the masses first to eat a diet adequate in all vitamins which will maintain the best health, and second, provide that during the last three months of pregnancy the pregnant woman obtain a diet containing more than the maintenance quantity of vitamins to supply strength and storage for her new-born baby.

Davidson and Gulland[3] (page 258) have outlined the quantities of food detailed in Table 2

to be consumed for a minimum maintenance amount of foods containing all vitamins to preserve normal health. It is not necessary that just these foods be eaten, but their equivalent vitamin values must be consumed daily. To maintain a fetus in utero one must add additional quantities of vitamin to the mother's diet[3] (page 260) by increasing the quantities of the vitamin-containing food consumed. Because of the loss in transfer of vitamins from the mother's digestive tract to the fetus it is necessary to increase the minimum requirement of fresh fruit and vegetables of 13 ounces to about 26 ounces to accomplish this. At this time the increase in this type of food is welcomed by the pregnant woman. In case the food cannot be obtained or eaten in sufficient quantity vitamin concentrates must be consumed in equivalent quantities in their stead.

TABLE 2. THE FOLLOWING MINIMUM MUST BE CONSUMED DAILY IN EVERY DIET AS A SOURCE OF VITAMIN TO MAINTAIN NORMAL HEALTH

DAVIDSON AND GULLAND

Standard

6 oz. leafy vegetables
3 oz. orange juice
4 oz. apples
16 oz. milk
1 oz. butter
whole meal bread

CONCLUSIONS

1. An analysis of the mortality of infants who die the first year, in Illinois, shows that 44% die under one week of age. The decrease in infant mortality from 1925 to 1928 of infants under one year of age was 1,488, while there was a decrease in the group who die under one week of only 213.

2. The infant mortality of offspring of mother rats receiving a diet which is only adequate for normal maintenance of a non-pregnant rat is high, 71% as compared with 8.5% normal mothers, for animals under 3 days of age, an age equivalent to about one week of the human infant.

3. A female rat which, during the period of gestation or while a nursling, has received only sufficient vitamin B complex for maintenance when not pregnant, suffers a dystocia.

4. Analysis by Goldberger of the food consumption of wage earners shows that December, January, February, March, April, May and June are months in which the diet contains less than the optimum maintenance of vitamin B complex, and Illinois statistics show that there is a higher mortality of infants less than one month of age during these months than during August, September, October and November, the four months of lowest infant mortality. The months of lowest mortality of infants under one month of age are the months in which the mothers have had two or more months of a diet containing more vitamin B complex than maintenance just prior to the birth of the child.

5. The ordinary minimum maintenance diet, from a standpoint of vitamin B complex, must be practically doubled during pregnancy in order that a strong healthy off-spring be produced with the least damage to the mother.

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ACCOMMODATION AND ACQUIRED HYPEROPIA IN DIABETES MELLITUS*

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In reviewing the literature transient hyperopia and changes in accommodation seem to be rare complications in diabetes mellitus. Taking cognizance of Granstrom's[1] experience the complications are either becoming more frequent or else the condition has not been given sufficient recognition in the past. Following out routine refractions and ocular examinations of patients entering the clinic, Granstrom observed six cases of acquired hyperopia complicating diabetes in a period of one year. He stated that two of these cases probably would not have been dis-

*Read before Section on Eye, Ear, Nose and Throat, Illinois State Medical Society, May 5, 1931, East St. Louis.

covered except for routine examination. None of the cases had previously been treated for diabetes and the hyperopia had appeared shortly after treatment had been instituted.

In the opinion of the authors this condition must not be a very rare complication. We believe that other oculists have met and recognized this complication, but either on account of insufficient data or reticence the cases have not been reported and have been lost to statistical data.

As early as 1900 Norris and Oliver[2] considered that the most common ocular complications of diabetes were, "Paralysis and paresis of accommodation; pupillary anomalies; alterations in the static refraction of the eye." VonGraefe[3] in 1858 and Seegen[4] in 1875 were the first perhaps to call attention to the loss of accommodation in this disease. The latter observed pupillary anomalies in three of his cases.

Horner[5] in 1873 was the first to report a case of acquired hyperopia in diabetes and he suggested that the hyperopia was due to a shortening of the eyeball on account of a very large loss of fluid from its tissues.

A few isolated cases were reported from time to time until in 1911 Wescott and Ellis [6] in a careful review of the literature collected and reported in detail, cases of the following authorities, Horner, Risley, Carpenter, Callus, Lichtenstein, Landolt, Doyne, Jackson, Lundsgaard, Knapp, Zentmayer, Gould and Roberts; a total of seventeen cases to which they added four. About this time Woefflin,[7] Davis,[8] Kadinsky[9] also reported similar cases. Anderson,[10] Spalding and Curtis,[11] Roberts,[12] Post,[13] Elschnig,[14] Duke-Elder[15] in the following decade reported and discussed refractive changes complicating diabetes.

Several authorities theorized concerning the refractive changes complicating diabetes. Woods[16] observed,—"That the condition occurs acutely, is always bilateral, and is transitory—hence the prognosis is favorable. Weakness of accommodation is frequent—true paralysis rare. Where the lens is clear and unchanged inverse astigmatism is frequent. The diabetes is usually recent."

Woefflin in 1911[17] observed that while the diabetes in his case was readily cured the hyperopia disappeared slowly — after the disappearance of the sugar. He further stated that the anterior images of the nucleus of the lens were less luminous than after the disappearance of the hyperopia, which would seem to indicate that the hyperopia was due to the increased refraction of the anterior cortex of the lens. Kadinsky[9] in 1911 found that his patient returned to his original refraction on the disappearance of sugar. Roberts,[12] Post,[13] and Spalding[11] found the same condition in their cases. However, Roberts contention was,—"That the increase of hyperopia seen in our diabetics is not due to lens or vitreous changes alone, but to a combination of the two, caused by a lessening of the amount of sugar and salt in the blood and an alteration in the blood volume." Roberts quotes a private communication from Dr. Spalding,—"I have tried to explain these cases by the effect which the loss of sugar content must have on the tissues of the media of the eye. It is a question in my mind how much the lens can change on account of the character of its tissue and the mode of its nourishment. It is hard for me to conceive as in the case cited how such a rapid change could take place if it were confined to the lens alone. I am more inclined to believe that the condition is due more to some change in the refractive index of the media." Such was the status of the knowledge of refractive changes occurring in the course of diabetes until Elschnig[14] made his famous report in 1923. His patient had previously been operated on for a cataract in one eye. Later he developed diabetes with an increase of hyperopia in the other eye, while the refraction remained the same in the aphakic eye.

Duke-Elder[15] in 1925 took cognizance of Elschnig's findings and in his discussion of refractive changes contended that the phenomenon is due to osmotic processes involving the lens alone caused by a variation of the molecular concentration of the blood and tissue fluid with the sugar content. Dykman[17] gave a review of the literature and accepted Elschnig and Duke-Elder's explanation of this condition.

Joslin[18] in his last edition evidently accepts Duke-Elder. He says,—"With the institution of progressive treatment the eyesight often temporarily fails and more than once patients in the course of a few days have become unable to read or even recognize individuals. The explanation

of this condition is undoubtedly due to changes in the water of the body and the disappearance of sugar. These incidently involves the lens causing refractive changes."

The few reports that have appeared since that of Duke-Elder have in all cases accepted his contention that myopia will be more likely to occur with increasing sugar and hyperopia with a decrease. There is no doubt that more instances of refractive changes will be observed in the future on account of the rapid and more effective attack on diabetes and because the oculist will be more on the alert for such changes.

CHANGES IN ACCOMMODATION

Case 1. Unfortunately the exact records of this case have either been inadvertently destroyed or lost. However, as the patient happened to be a brother of one of the authors and a physician, the circumstances are fairly well remembered. The patient had contracted malaria during the Spanish-American War and had recurrences over a period of years. Later he developed diabetes with a considerable amount of sugar. About this time, 1912, the Allen treatment of diabetes was more or less popular. The patient who at that time was 40 years of age appeared at the office with the complaint that he was unable to read but that his distance vision was unaffected. Fearing that he had a toxic amblyopia due to the years of quinine ingestion and the newer insult of the Allen treatment he was given a very careful examination. He would not accept any refraction for distance and his vision for distance was normal. However, it required almost a complete presbyopic addition to enable him to read comfortably. Under cycloplegia no changes could be found except his paresis of accommodation. As it was necessary for him to have a near correction to continue his occupation, a reading correction was given him. In the course of a few weeks his accommodation returned and he did not require a reading glass until he reached the presbyopic age. He died in diabetic coma at the age of 49.

Case 2. E. N. Farmer, aged 43 years. Had a diagnosis of diabetes made two weeks before and has noticed that since he has been under treatment he has not been able to read. His manifest refraction was:

R. 15/15 plus 1.50 15/10 —3
L. 15/15 plus 1.50 15/10 —3
add plus 1.25

Under cycloplegia no fundus findings and the refraction was the same. The patient has not been seen since.

TRANSCIENT HYPEROPIA

Case 1. F. R. L. Aged 49 years. The patient's record dates back to 1908. Ten years previous to this date he had been operated on for a strabismus. His chief complaint at this time was a slight divergence. His refraction at this time was manifest:

R. 15/80 —1, plus 4.00 axis 90 15/20.
L. 15/40 —2, plus 2.00 axis 80 15/15 plus.

In 1922 a slight change was made in the axis of the cylinder of the left eye and a presbyopic correction was added.

Sept. 30, 1925, he appeared for a refraction with the history that he had been under diabetic diet for a few weeks. His refraction on this date:

R. 15/120 plus 2.00 plus 4.50 axis 90 15/30
L. 15/80 plus 1.50 plus 2.50 axis 85 15/20
add plus 2.50

October 4, 1925, a recheck showed:

R. plus 2.50 plus 4.50 axis 90 15/20
L. plus 4.00 plus 2.50 axis 85 15/15
add plus 1.75

Nov. 8, 1925, refraction now showed:

R. plus 4.50 axis 90 15/20
L. plus .50 plus 2.50 axis 90 15/10 —4
add plus 2.00

He was given this correction to wear. The sugar had completely disappeared and the patient was in excellent physical condition. He continued without refractive changes until he developed some intraocular hypertension in 1927. When last refracted in 1930 with the exception of the presbyopic addition he was wearing the correction of 1925.

Case 2. J. L. Aged 59 years. Had been under diabetic treatment—insulin—for three weeks. Has noticed blurring of vision for distance for the past week. Wearing plus 2.00 for reading only. Sees better with his reading correction for distance than for close work.

R. 15/60 plus 1.50 15/10 —3
L. 15/60 plus 1.50 15/10 —3
add plus 2.25

Under cycloplegia the refraction was the same. He returned three weeks later with no correction for distance and his previous reading correction had become satisfactory.

Case 3. Mrs. J. S. Aged 47 years. Had right eye removed on account of a complication of trachoma in early life. For several years had been wearing the following correction, prescribed under an atropine refraction:

L. 15/40 —.50 plus 1.25 axis 90 15/15

She appeared Nov. 24, 1930, at the office complaining that she saw better for distance with her reading correction than with her distance glasses. Her refraction had changed to:

L. 15/40 plus 1.50 axis 90 15/10 —4
add plus 2.00.

Under strenuous diabetic treatment her refraction returned to its former status one month later.

The question may be raised as to the type of cycloplegia. As most of the cases of diabetes occur in the presbyopic age we assume that the accommodation is fairly well relaxed anyway and that mild cycloplegia will suffice. Homatropin is the usual cycloplegic used in the presbyopic age. We also assume that in the cases re-

ported in the presbyopic age that some cycloplegic has been used where no specific mention of the type used has been made. In very few of the cases reported atropin has been used and in a very large number of cases no cycloplegia at all. These cases have been accepted in the literature as authentic cases of transitory hyperopia complicating diabetes. However, in the future we believe that atropin should be used as a cycloplegic in order to rule out criticism. The changes may not be very different from those of homatropin but it will forestall any argument as to the possibility of error.

If we are to accept Duke-Elder's contention there is a great possibility that we will see many more of the cases of increased or acquired hyperopia in diabetes than formerly and that instead of it being a rare complication it will become a condition that we may rather expect under intensive treatment. Many cases of premature presbyopia should call our attention to possible diabetes among other conditions for differential diagnosis and a rapid increase of hyperopia when we should not expect it should call for cycloplegia to determine the true status of the refraction. The best cycloplegic we must all admit is atropin and the findings are conclusive. If, after excluding all the possibilities of error, we find a case of acquired hyperopia complicating diabetes, it is certainly worthy of recognition in the medical literature.

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DISCUSSION

Dr. E. C. Spitze, East St. Louis: Dr. Geiger has brought out the point very nicely that there is a great deal of controversy as to the cause of the changes in refraction in diabetes. It has been stated that hyperopia may increase or decrease, while the amount of sugar more or less steadily increases. Wescott and Ellis state that these changes may occur in the same patient, and that the changes may bear no direct relation to the amount of sugar in the urine. Diabetes sometimes causes a true paralysis of accommodation, and in a number of cases there has been either a limited change or a more or less definite paralysis. Landolt, speaking of augmentation of the index of refraction of the vitreous body, thought that changes in the volume of the globe could not occur rapidly enough to account for the changes in the refraction in the case he observed. Horner, on the contrary, believed that sudden loss of fluid from the eye was responsible for developing hyperopia. Schmidt-Rimpler said that loss of fluid with minus tension does not alter the refraction of an eye.

Lundsgaard probably studied his cases more thoroughly than anyone else. In repeated examinations with the ophthalmometer and Schiotz tonometer, he found no changes in the corneal curvature or tension of the eyes during the period of changing refraction. In diabetic cataracts the lens has been found on chemical examination to contain sugar, according to Liebrich and Leber, while Nagel on the contrary did not find sugar in the lens. Hess found that 20 per cent. of grape sugar in the aqueous was required to produce 1 degree of hyperopia, while Deutschman noted cloudiness and swelling of the lens after immersing it in a 5 per cent. sugar solution for a few hours.

It is a most interesting problem, and offers opportunity for study for the internist, the physicist and the physiologic chemist as well as the ophthalmologist.

SOME PITFALLS IN DIAGNOSIS OF ACUTE ABDOMINAL CONDITIONS

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Although in many instances of acute surgical abdomen it is impossible to establish a correct, definite preoperative diagnosis, the scientific surgeon should make a conscientious effort to shed light on the underlying pathological condition because not only the choice of incision and the planning of the entire operation depend upon a correct diagnosis but in some instances the surgical procedure may not be indicated disregarding apparently threatening symptoms. The only way to avoid grave consequences is not to concentrate the attention on the abdomen even in apparently clean-cut cases but to submit the patient to a complete examination in order to

eliminate certain conditions which do not require surgical interference.

It is not the intention of the writer to discuss in detail the differential diagnosis of acute surgical conditions of the abdomen but to point out certain pitfalls which he encountered in his own practice and which can be avoided if kept in mind.

The result of a perforation of a gastric or duodenal ulcer is usually collapse and prostration; the patient complains of excruciating pain in the epigastric region and an extreme abdominal rigidity develops. This initial period which rarely lasts more than two hours is followed by a period of reaction in which the pulse improves and the patient gets warmer. After this short period comes a shock in the strict sense of the word. The term "shock" is a clinical term for a condition which is characterized by an increased pulse rate, shallow pulse, fall of blood pressure, decrease of the pulse pressure and subnormal temperature. This shock is caused by a profound disturbance in the physicochemical equilibrium; it accompanies the rapid development of an acute septic peritonitis. Disappearance of liver dullness is usually a late and not an early symptom of the perforation and for this reason should not be depended upon in arriving at a correct diagnosis.

It is superfluous to emphasize that such a condition requires an immediate surgical intervention. On the other hand it should be borne in mind that lead poisoning may simulate a perforation of a viscus; rigidity of the abdominal wall, severe pain and vomiting may be present in both conditions, but lead poisoning does not produce a condition of extreme prostration and collapse as the perforation; shock in the strict surgical sense of the word as defined above is absent; furthermore the typical blue discoloration of the gums is present. Hence the rule to inquire about the occupation of the patient and never to forget to inspect the gums in every case of acute abdomen.

Another condition which may be mistaken for a perforation of a viscus is acute pancreatitis. The pain in this condition is usually more prostrating and overpowering than that of perforation. There is one characteristic symptom which is not present in every case of acute pancreatitis but if found allows to make a definite preoperative diagnosis; livid face and patches of grayish-blue color on abdomen and thighs. If such patches are found the surgeon should not waste time on trying to locate a perforated ulcer or exploring the entire abdominal cavity but he should first concentrate his attention on the pancreas and subject it to a careful inspection.

Another condition which has been frequently mistaken for acute abdomen not only in children but in adults as well is diaphragmatic pleurisy and incipient pneumonia especially so-called central pneumonia. The pain in these conditions may be localized in epigastrium and rigidity of the abdominal wall may develop. An important diagnostic sign is the ratio pulse: respiration. The proportion of the pulse rate to respiration in a normal individual is about 65:16. In the above mentioned conditions the respiratory rate is accelerated out of all proportions to the pulse rate; in doubtful cases the ratio pulse: respiration should be evaluated and if it is above normal the cause should be sought above the diaphragm.

A relatively rare but important occurrence is the simulation of acute abdomen by tabetic crisis. A severe pain and rigidity of the abdominal wall eventually combined with vomiting may easily simulate perforation of a gastric ulcer or an acute gallstone attack; however the shock is absent; the temperature does not rise; the pulse may increase in frequency but its quality remains good and least but not last—the Argyll-Robertson's pupils are present, the patellar reflexes are absent and all the other characteristic symptoms of locomotor ataxia help to make the diagnosis. The surgeon should adopt a rule never to decide to open an abdomen without an examination of the pupils and patellar reflexes. Of course a patient with locomotor ataxia is subject to a gallstone attack or to a perforation of a gastric or duodenal ulcer just as well as any other individual. A careful history will help in such cases to make the correct diagnosis. Various gastro-intestinal disturbances of long standing will suggest the possibility of an ulcer or a gallbladder disease. Furthermore the clinical examination may be of great value in making the differential diagnosis; the pain in the upper abdomen caused by a tabetic crisis usually does not radiate towards the right infrascapular

region or the right arm as the pain in a gallstone colic. The vomiting may be absent in a crisis or does not dominate the picture so much as it does in a perforated gastric ulcer. The tenderness in a crisis is not so sharply defined as it it in a gastric or duodenal ulcer.

It should not be forgotten that frequent, obstinate vomiting due to acidosis may cause pain in the epigastric region; in such cases there is usually no rigidity of the abdominal wall but the tenderness in the epigastric region, the pain and exhaustion may arouse the suspicion of an acute abdominal condition. Only a careful clinical study of the case including blood chemistry and urine examination will help to avoid a fatal mistake. It is helpful to remember that in cases of acidosis the vomiting usually precedes the pain while in acute surgical conditions of the upper abdomen the pain usually appears first or simultaneously with vomiting.

Even the most experienced surgeons mistook a renal calculus for appendicitis. The pain in nephrolithiasis is usually located more in the flank than in the frontal part of the abdomen and it radiates towards the bladder and not towards the central area of the abdomen. If the patient had several attacks of kidney colic the chances are that a pyelitis may be present; hence the lesson that under no condition a laparotomy should be performed without a previous urine examination.

It is worth while to remember that increased pulse rate, distention of the abdomen and persistent vomiting are symptoms sufficient to arouse a suspicion of acute peritonitis or paralytic ileus; it is wrong to wait till the pain or rigidity appear; the most severe cases of acute peritonitis may occur without these symptoms.

Typhoid fever may cause a perforation of a specific ulcer. The condition causes symptoms typical of perforation in general: pain, distention of the abdomen, rigidity, tenderness, vomiting; nevertheless it is important to recognize the etiology of the condition for several reasons: in the first place, typhoid fever being a contagious disease, necessary precautions must be taken and the operating room disinfected in a proper manner after the operation; furthermore if the diagnosis has been made before the operation it will facilitate the location of the perforation as it is known that it occurs most frequently in the lower part of the small intestines, in the right lower quadrant of the abdomen. The diagnosis may encounter many difficulties because roseolae are not present any more at the time of the perforation; due to developing peritonitis which follows the perforation the pulse rate increases and the slow pulse, characteristic of the typhoid fever, is substituted by a weak, frequent pulse. The temperature influenced by peritonitis may also change its type and the characteristic sharp temperature curves may be absent. The peculiar somnolence and the mental confusion of the patients should arouse suspicion and in such a case palpation of the spleen, a Widal test and the examination of the urine and feces should be made immediately; the accompanying bronchitis may also lead to the suspicion of typhoid fever. Due to the mental slugginess of typhoid patients they may not complain of severe pain but a definite tenderness to palpation is usually present; a perforation may be overlooked if no sufficient attention is paid to the rigidity and distention of the abdomen.

Another source of mistakes is located in the rectum. A cancer in this region may exist for a relatively long period without any symptoms and suddenly it may cause an acute intestinal obstruction. Therefore no laparatomy for acute abdomen should ever be performed without a rectal examination.

Certain allergic conditions may cause abdominal symptoms closely resembling acute surgical abdomen; sharp pain, rigidity, tenderness and vomiting have been observed in cases of hypersensitiveness where a single injection of adrenalin promptly relieved all the symptoms. The field of allergy awaits further explorations but with our limited knowledge of allergic diseases it deems advisable to resort to an adrenalin injection in every case of suspected hypersensitiveness before advising surgical interference.

Conclusion: The above mentioned pitfalls of the diagnosis of acute surgical conditions of the abdomen serve as proof of the necessity of a complete clinical study of each case including the examination of patellar reflexes, pupils, rectum, urine and the recording of pulse and respiration before any surgical procedure is attempted.

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HAY-FEVER, SINUS INFECTIONS AND ASTHMA

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Some of the early writers disliked the term "hay-fever" which already in their day crept into general use owing to the fact that the trouble was believed to be influenced by the emanations of hay; it was thought that moist heat, dust, and sunshine were the chief factors in bringing on the attack. The affection was recognized and studied by German, French, American and English physicians who already gave an excellent description of the disease. An English writer, Gordon, who published an article in the *London Medical Gazette* (1829), was of the opinion that the cause of the attacks was entirely due to the emanations of certain flowering grasses. Another writer recorded about one hundred and sixty cases from the study of which he reached the conclusion that sunlight was the main cause of the trouble. Still later a German writer formulated a theory that the attacks were caused by vegetable spores.

The above theories were later completely disproved by the experiments of Blackley (London, 1873) and Wyman and Beard (New York, 1876), who demonstrated beyond doubt that the impact of the pollen of certain plants, chiefly the Ambrosia artemisiaefolia (rag-weed), Graminaceae, and Solidago virgaurea (goldenrod) on the mucous lining of the nose and upper air passages was the real source in the causation of an attack of hay-fever.

Since then many writers have demonstrated that the emanations from animals like cats, dogs, cows and horses are also some of the exciting causes. However, we find that the earlier writers and observers practically confined themselves to the study of the excited cause of an attack.

The pollen theory of hay-fever is a good one, but we find its advocates failing to differentiate between the exciting cause of the affection and the peculiar systemic disorders which render certain individuals susceptible to the harmful effects of the pollen. In modern scientific investigations a new line of departure seems to have been taken by many writers and medical men: that the affection is essentially a neurosis; that morbid conditions of the intra-nasal passages that may or may not be associated with stomach or bowel conditions are at the root of the trouble; that certain individuals with inherited nervous tendencies are unable to stand the strain of large city life with its smoke-filled air, dust, soot, or pollen; that the lack of proper hygiene and exercise; excesses of various kinds, overeating, improper or adulterated food, and insufficient sleep, will undoubtedly predispose an individual to an attack of hay-fever.

We thus conclude that there are three general conditions necessary for the production of the affection: first, the presence of the pollen in the atmosphere, as demonstrated by many authorities; second, the so-called neurotic tendencies and other constitutional causes like gout, rheumatism, toxemias; and third, morbid conditions of the nasal chambers and upper air passages. That hay-fever patients are neurotic is generally conceded by all writers and authorities; but few fail to agree that a perfectly healthy nasal mucous membrane, free from sinus infection, spurs, deviated septi and other obstructions, is very seldom affected by the trouble. While I do not care to bring out a new theory as to the cause of hay-fever, I have been extremely impressed with the relationship of intra-nasal obstructions and catarrhal conditions of the sinuses, especially the antrum and ethmoidal. Furthermore, it is a matter of constant observations that the disturbance runs in families who were subject to hysteria, neurasthenia, chorea and asthma. What the important lesion is which constitutes the neurosis in the very nature of the question of pathology is often difficult to tell. But from experience and observation many physicians and writers agree, however, that if there is any pathologic lesions in these cases (leaving out mechanical obstruction by neoplasms, deviated septi, gummas, etc.) it is found in the lack of vaso-motor control which characterizes the neurotic manifestations. For instance, in neurosis and hay-fever the essential lesion (not cause) is undoubtedly a vasomotor paresis of the blood vessels of the nasal mucous membrane; while in asthma the condition is due to a vasomotor paresis of the blood vessels of the bronchial mucous membrane. As a matter of fact, we find in the medical literature cases which had been cured by treatment confined entirely to the correction of the diseased conditions

of the intranasal passages. A positive clinical fact was thus established which has been corroborated by many a medical man as to compel our acceptance of the view that in a large percentage of cases, and probably in all, a predisposing cause of the attack lies in a previously existing morbid condition of intranasal tissue.

Local Morbid Conditions of Intranasal Chambers. An obstructive lesion in the anterior portion of the nasal passages may develop into some pathologic lesion immediately behind the point of stenosis; it may give rise to reflex symptoms with every act of respiration, though its action is to a great extent mechanical and easily appreciated. The immediate result of this probably is overlooked, but if long continued there ensues a dilatation of the local venous sinuses which are found on the surfaces of the middle and lower turbinals. This is due to the more or less permanent turgescence of the mucous membranes, whereby hypernutrition is established, and finally a connective tissue hypertrophy in the mucous membrane proper. To understand this more clearly involves a brief reference to the physiological function of the nasal mucous membrane in respiration.

In normal health the nasal membrane pours out from about twelve to sixteen ounces of watery serum daily, which is spread over the convex parts of the turbinals for the purpose of moistening, warming and cleansing the inspired air as it passes into the lungs. This process is regulated by a vasomoter control from certain centers in the medulla. We thus conclude from our studies of anatomy and physiology, and from the experience of many writers and medical men, that nasal neuroses is due practically entirely to peripheral causes, and that in this way we practically eliminate the necessity of the neurotic tendencies.

Asthma. Asthma may easily occur as a result of intranasal obstruction or irritation. As we all know, the bulbar nuclei of the fifth nerve are connected with the vagus, hence the possibility of exciting reflex nasal phenomena. The most important etiologic factor of asthma of nasal origin is sinus infection, particularly the maxillary and ethmoid. On the other hand, asthma may not be of nasal origin. That asthma was directly associated with intranasal pathology was known to German and French medical men before 1856. Voltolini published an article (Vienna, 1871) calling attention to the relationship of asthma with nasal polypi; he was the first to cure his patients by the intranasal treatment. Mackenzie has demonstrated this relationship. A French writer regarded the affection as a neurosis of the respiratory apparatus with bronchial spasm. An American writer adopted the theory of local vascular disturbance and congestion, like the turgescence of the nasal mucosa in hay-fever. Now, whether we attribute the causative factor in asthma to vasomotor paresis, muscular cramp, etc., the question for us to consider is that aside from the anatomical relations between the upper and lower nasal passages, the nose is the gateway to all air passages, to external influences of all kinds and therefore the most likely seat of irritation in the production of various nervous phenomena. In fact, no modern observer considers asthma a distinct disease.

Sinus Infections. Sinusitis has long been considered a causative factor in hay-fever. A number of writers and rhinologists have been impressed with the relationship of the trouble and catarrhal sinusitis. Indeed, I have had a very gratifying result in a case of ethmoidal sinusitis I operated on at Chicago Hospital during the summer of 1930. The patient is apparently relieved or cured from a most severe and chronic case of hay-fever. Ballenger in his "Diseases of the Nose, Throat and Ear," on page 255, says: "Inasmuch as sinusitis, either catarrhal or suppurative, is often associated with hay-fever, it seems plausible to conclude that the irritation attending the discharge of the secretions over the nasal mucous membrane may be the cause."

Treatment and Summary. Treatment may be divided into several groups, namely:

(a) The relief of an acute attack;

(b) The removal of intranasal obstructions, growths, diseased processes and drainage of the accessory sinuses;

(c) Diet, hygiene and systemic;

(d) Immunization;

(e) Geographic.

1. Attention to the gastro-intestinal canal; salol, salicylates, small doses of calomel and minute doses of atropine are of value. For spraying and topical application nothing is better than a combination of adrenalin 1:10,000;

ephedrine sol. 3% in metaphen 1:2500 solution. Boric acid or normal salt solution for itching of the inner canthi of the eyes. The rays of the infra-red apparatus or the 500-candle power incandescent lamp applied to the face with the eyes closed, for about fifteen minutes, at a distance of about eighteen inches is of considerable therapeutic value in acute cases. It should be applied about three times daily.

2. Deviations of the septum, polypi, sinus operations, or other intranasal surgery should be performed during the period of quiescence. The sensitive areas (generally the inferior and middle turbinates) should be cauterized. From three to four areas may be cauterized at a sitting. Ballenger quotes Dr. Schadle who reported that irrigation of the maxillary antrum results very favorably.

3. The diet should be light and nutritious. Faulty metabolism should be studied and internal irritation corrected. Food allergy is at the present time given a great deal of attention. These patients generally give an allergic family history; they easily respond to drugs like ephedrine and adrenalin, and skin tests are usually successful in bringing out the offending food—of great importance in the diagnosis of asthma. Various hydrotherapeutic treatments have their advocates with varying degree of benefit.

4. Serum treatment, vaccines and autogenous vaccine therapy, afford relief in some cases.

5. Some writers devote a good deal of descriptive literature to the geographical distribution of seasonal statistics of the disease. In England the attacks generally set in during May and June and rarely last longer than until September. The same is true of Germany and France. By far the most prevalent form of hayfever which is met with in the United States is that which occurs in the latter part of August and lasts until the first frost. The climatic influence, according to authorities, confines itself mainly to the country east of the Mississippi River and between the thirty-fifth and forty-fifth parallels of the northern hemisphere. The high altitudes are practically free from the disease.

In view of all theories, old and new, we must search beyond the nasal passages to the various sinuses for the real source which predispose the nasal mucosa to irritation by the poisonous products of pollen, etc., which bring on the condition. We must also bear in mind that the pollen itself is not irritating and does not excite inflammation. It is erroneous to believe that the pain and irritation which accompany the attack are the result of the impact of an irritating substance upon the membrane. Pressure on the terminal filaments of the nerves brought about by the flood of serum pouring through the meshes of the nasal membrane result in pain. Hence the logical conclusion to look beyond the nasal chambers—the accessory sinuses.

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RESUME OF A STUDY OF SEROLOGY AND BLOOD CHEMISTRY OF ONE HUNDRED CONSECUTIVE CASES*

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So much has been said about routine Wassermann tests that it seems almost superfluous to present the subject again. And yet it is true that even today the test is not routine in many hospitals, and this includes our own.

The determination of routine blood sugars and nonprotein nitrogen in all hospital cases is a procedure which should be employed just as routinely as the Wassermann test. In the past two or three years some of the most prominent clinics have adopted this procedure as routine in all cases. In our own hospital the tests are seldom employed.

Few will argue the value of the Wassermann and Kahn tests, but there is considerable doubt among some as to whether routine non-protein nitrogen and blood sugar determinations give information commensurate with the time and effort expended.

This investigation was undertaken to establish the value of these procedures routinely in all cases, particularly in our own hospital. The

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method employed consisted of the venepuncture. The blood was divided into two portions; one portion was put into tubes for serological study, and the other was put into tubes containing potassium oxalate for chemical study. These cases were chosen at random from the major medical and surgical services, usually just before the patient was discharged from the hospital. We excluded obstetrical cases for two reasons; first, we do routine Wassermanns on these cases, and second, blood sugar findings on lactating women might be confusing in such a study.

The frequency of positive Wassermann and Kahn tests varies considerably: Cabot reports between 10-15%, Horner 17%, Nelson 6%, Fitz reports 5% in private practice and Service 3.4% in a large hospital. Our own hospital indicates 3%, but this does not include cases which were previously given the test by order of their own physician.

Of the 100 cases, 3% were found to have four plus Wassermanns and in each instance a four plus Kahn as well. One of the cases was diagnosed neurosyphilis and the serum test was, therefore, only corroborative. The second case. however, was diagnosed as chronic interstitial nephritis and a Wassermann had not been done. The third case, a woman of 24, was operated on for salpingitis and cystic oophoritis and just before discharge it was discovered that a four plus Wassermann and Kahn were present.

There were, therefore, in the series of 100 cases two instances of syphilis, one a surgical and one a medical, in which the serum findings would have passed unnoticed and undiagnosed.

The blood sugar determinations were made on fasting stomachs in 50% of the cases, and two and a half hours after a normal average meal in the remaining 50%. The literature on the fasting level of blood sugar varies somewhat, but it is fairly well agreed that the average is included between 80 to 120 mgms., per 100 c.c. blood. In the first decade of life the average is somewhat less, ranging from 80 to 102 mgms., per 100 c. c. With each decade there seems to be a slight increase. It is recognized that some diabetics give normal fasting blood sugar values and for this reason it is well, when there is any doubt whatever, to make blood sugar determinations one and two and a half hours after a heavy carbohydrate meal.

This will furnish an index of the insulin capacities of the pancreas as in two and one-half hours to three hours the blood sugar should return to normal. In our series there were six cases which had been diagnosed as diabetes mellitus, with blood sugar values of 173, 182, 322, 250, 154, 285 mgms., per 100 c. c.

In addition to these diagnosed cases of diabetes mellitus there were the following:

1. A woman, aged 60, diagnosed as chronic colitis and cholecystitis with a blood sugar of 232 which is distinctly high. The urine revealed traces of sugar at times. Evidently the patient had a very high renal threshold. She was not placed under management.
2. Male, aged 43, diagnosed as chronic bronchitis and possible T. B. Urine and sputum negative. Blood sugar 181. No further work was done.

There were, therefore, two cases in the series with definitely high blood sugars, but one cannot state that these patients were diabetics. The first case, with a blood sugar of 232 mgms., and chronic cholecystitis almost surely is a case of diabetes, but the second case would require further procedures to be certain. It would be necessary to consider other conditions producing high blood sugar, namely; gall bladder disease, cirrhosis of the liver, bronchial asthma, arteriosclerosis, carcinoma, obesity, chronic nephritis, apoplexy, pneumonia, typhoid fever, hyperthyroidism, etc.

There is also considerable variation in the nonprotein nitrogen values: some authors give 22 to 25 mgms., per 100 c.c. blood, while others give 24-25 mgms. Inasmuch as some of the determinations were made several hours after a meal—and a full meal usually raises the nonprotein nitrogen 4.7 mgms., per 100 c.c. — our normal values were based between 22 to 35 mgms., per 100 c.c. blood. The following increased values were obtained:

High N. P. N. cases:

No. 1. N. P. N. 43. Age 19. General history essentially negative. No blood pressure. Measles, tonsillitis. Operations: Appendectomy and oophorectomy.

No. 2. N. P. N. 45. Age 70. B. P. 160/85. Chronic prostatitis. Urine contained occasional blood, with a trace of albumin. Prostatectomy. Recovery.

No. 3. N. P. N. 42. Age 34. B. P. ? Acute right salpingitis, appendicitis, mitral regurgitation. Recovery.

No. 4. N. P. N. 43. Age 31. Right salpingoophorectomy. Urine negative. B. P. ?

No. 5. N. P. N. 60. B. P.? Carcinoma of the prostate, hypostatic pneumonia. Albumin three plus.

No. 6. N. P. N. 43. Age 44. Cholecystectomy. Albumin one plus. Recovery.

No. 7. N. P. N. 44. Age 26. Herniotomy. Recovery.

No. 8. N. P. N. 52. Age 66. Lower left pneumonia. Expired.

No. 9. N. P. N. 88. Age 58. Cirrhosis of the liver. Expired.

There were nine cases with nonprotein nitrogen values ranging from 42 to 88. Nonprotein nitrogen is usually increased in lobar pneumonia, but is normal in typhoid fever and rheumatism.

Conclusions: Although a series of 100 determinations is rather small, we can conclude the following:

1. Wassermanns and Kahn tests should be a routine procedure in every surgical and medical case just as it is done in all obstetrical cases.

2. Routine blood sugars are indicated in every hospital patient, and where found to be increased beyond normal values, measures should be employed to establish the cause of the increase. In doubtful cases test carbohydrate meals and glucose tolerance tests are of great value.

3. Routine nonprotein nitrogen determinations do not seem necessary from this series of cases. Five patients with moderate but definite nonprotein nitrogen elevations made uneventful recoveries. Marked nonprotein nitrogen elevations in acute infections indicate a poor prognosis.

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INTRA - ABDOMINAL HEMORRHAGE FROM RUPTURED CORPUS LUTEUM CYSTS

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Among the various acute intra-abdominal lesions that may come to the attention of surgeons is hemorrhage from a ruptured corpus luteum cyst. Although some gynecologists state that this lesion is relatively common, very little mention is made of this type of pathology in the text-books and literature.

In the instances reported the majority of cysts break spontaneously, but very rarely is there an associated history of trauma. As with a bleeding ectopic pregnancy the usual mistake in diagnosis comes with the confusion with acute appendicitis. In two cases I have seen there has been a history suggestive of trauma, following which a clinical picture resembling that of a developing acute appendicitis has manifested itself.

According to Phaneuf, hematomata of the Graafian follicles and hemorrhagic cysts of the corpus luteum that rupture with intra-peritoneal hemorrhage are quite common. Stuckert[18] believes the predisposing causes are general rather than local and among them he mentions typhoid and scarlet fever, general disorders of nutrition, such as anemia, chlorosis and hemophilia, phosphorus poisoning, influenza and rheumatism. Local and exciting causes are passive hyperemia, thrombosis, torsion, uterine retroflexion, inflammatory processes, sudden checking of the normal circulation and trauma.

Kermauner orally described to Herdler[11] a case following a hot bath and cohabitation. Laparotomy showed a large quantity of blood in the abdomen, proceeding from a bleeding follicle of the right ovary. Primrose's case was that of a woman of 37, who after supervaginal hysterectomy, developed signs of internal hemorrhage due to a ruptured corpus luteum cyst.

In the case of ruptured corpus luteum cyst reported by Stuckert,[18] the ovary measured 5x3x2.5 cm. "Its surface was gray and the organ firm. A large part was represented by a ruptured cyst. The inner wall of the cyst was covered by clotted blood, which also protruded from the point of rupture. In the ovarian tissue and in the wall of the cyst were several red, jelly like masses. The ovarian stroma was dense, with many thick walled vessels present. Several small cysts lined by flat cells were observed, filled with homogenous material. Several corpora albicantia were seen. In some parts of the ovary were diffuse infiltrations with mononuclear cells. In some places there was a band of large pale polyhedral cells, instead of frayed hemorrhagic tissue. This band followed a wavy course and the whole was clotted with blood. Large areas of hemorrhage were found beneath the connective tissue cells of the stroma. He agrees with Ravdin,[17] who said it is better to operate in all cases of this type, even when the symptoms are mild, as a definite diagnosis cannot always be made without laparotomy nor the possibility of continued bleeding be estimated."

Ravdin,[17] Hadden,[8] and Korack have all de-

scribed patients suffering from ovarian hemorrhage who were operated on for appendicitis, and in whom normal appendices were found. In each case an ovarian hemorrhage had been the cause of symptoms suggesting appendicitis.

In Coulson's[3] patient, a girl of 14 had a temperature of 101 and pulse of 125. The tongue was clean and moist. The abdomen was hard and boardlike over its whole extent and very tender. She indicated the epigastrium as the source of pain. There was an area of absolute dullness extending from about one-inch below the liver on the right side down to the pelvis. The whole of the left side of the abdomen was tympanitic.

In Levi's[14] case, a woman of 24, the abdomen moved with each respiration. It was also very tender, especially on palpation of the lower quadrants. He found no rigidity. No mass was found on rectal examination, nor was there any tenderness. Such a syndrome he believes, suggests a diagnosis of hemorrhage from a luteal cyst. The absence of epigastric pain, vomiting, hypogastric pain and leukocytosis, combined with a flaccid abdomen, should exclude appendicitis. The absence of the history of a missed period and uterine hemorrhage, although not invalidating a diagnosis of ectopic pregnancy, renders it less probable.

In Hammond's[10] case, the pulse was 80 and temperature 99 F. The urine was normal except for 2 or 3 erythrocytes and 10 or 12 pus cells per high power field. Hemoglobin was 80%; erythrocytes, 4,200,000 and leukocytes, 13,500. A diagnosis of appendicitis was made in this patient.

Galloway[20] tells of feeling an ovarian cyst rupture between his fingers while making a bimanual examination. The patient felt better at the time than before being examined. However, signs of intra-peritoneal hemorrhage developed after a few hours observation which necessitated operation.

I present the following picture taken from my experience:

Miss L. D., a housemaid, aged 22 years, had always been in normal health until July 22, 1929. She had never been pregnant and the menstrual periods were always regular. Three days prior to the onset of the next menstrual period, at ten o'clock in the morning, while bending over during the course of her daily duties, she felt a sudden twinge of pain in the right lower abdominal quadrant. It was only momentary in character, but an hour later she began to develop a generalized discomfort in the same area. The discomfort became progressively more severe until at one o'clock that afternoon, three hours after the onset, she sought medical aid.

Examination at that time revealed a well nourished white female, about 22 years of age, who did not appear acutely ill. Her throat, neck, chest and extremities were negative. She had no fever. The abdominal examination revealed marked tenderness over McBurney's point. There was no muscular rigidity. Pelvic examination was negative. Pulse 88 and white blood count was 12,000, which increased to 13,800 one hour later. A diagnosis of acute appendicitis was made and the patient was removed to the Evanston Hospital for immediate operation.

A McArthur-McBurney incision was made. Upon opening the peritoneal cavity a large amount of fluid and clotted blood was seen. The appendix was normal, but was quickly removed by the customary accepted technique. Through this type of incision one could not see from whence the blood was coming. Here again, had accurate preoperative diagnosis been made, this type of approach would certainly not have been used. However, the wound was extended by cutting across the rectus sheath at the lower end of the incision, and the right rectus muscle retracted medially. With difficulty, one could see that the bleeding was coming from a ruptured right ovarian cyst, which, before bursting, had been about three inches in diameter. The cyst was ligated and amputated distal to the ligature, following which the raw surfaces were peritonized. As many of the loose clots as possible were removed and the abdomen closed by layers without drainage. The pathologist (Dr. J. L. Williams) reported "ruptured corpus luteum and follicular ovarian cyst; slight chronic appenditicits."

Except for some undue soreness of the abdominal wall due to traumatism of the retractors, the patient made an uneventful recovery and has been well ever since.

Had correct preoperative diagnosis been made certainly the technical steps of the operation could have been made much simpler and the patient likewise spared of a certain amount of unnecessary postoperative discomfort.

A few years ago, I saw a similar case with my former colleague, which he has subsequently reported in the literature:[21]

A white female, aged 28, who had two normal full term pregnancies, and no menstrual disorders, had about six o'clock at night accidently struck the right lower quadrant of her abdomen against the arm of a chair. There was no appreciable pain at the time, but one hour later at dinner she had no desire to eat. She retired about eleven o'clock that evening and at that time remembered that she was aware of some discomfort near the region of the recent traumatism. About two o'clock in the morning she was awakened by the increased intensity of the pain. I saw her a

short while afterward and found a definite tender area near McBurney's point and rigidity of the lower half of the right rectus muscle. She had no fever, her pulse was 84, and white blood count 13,000. All outward appearances pointed toward a diagnosis of acute appendicitis, but the history of the recent trauma made this a little doubtful. I waited for an hour and repeated the white blood count which was then 19,000 and her pulse had increased 4 points.

A diagnosis of an acute abdominal lesion was made, probably appendicitis, so the patient was removed to the hospital for immediate operation.

Before the peritoneum was incised, the well known bluish color of a hemoperitoneum was seen. About 500cc. of fluid and clotted blood was found in the abdominal cavity. The appendix was normal, but was removed. A small bleeding ruptured corpus luteum of the right ovary was found, which was readily controlled by suturing.

Conclusions:

1. In examining a female patient for an acute abdominal lesion, the possibility of intraperitoneal hemorrhage from a ruptured corpus luteum cyst must not be overlooked.

2. Bleeding from a ruptured ectopic pregnancy, although quite common, usually gives a history of symptoms pointing toward a pregnancy, which are not usually found in the above condition.

3. A history of recent trauma to the lower abdomen may be a very significant factor in making the preoperative diagnosis of lower abdominal pain.

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HODGKIN'S DISEASE OF THE MEDIASTINUM. A CASE REPORT

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Hodgkin's disease may localize in many different organs and the clinical manifestations cover therefore a wide range. Hodgkin's disease of the mediastinum causes physical signs that, while not pathognomonic, point as definitely to that condition as certain other physical signs point to lobar pneumonia. The following case is instructive. The diagnosis, as I view it in retrospect, should have been made by the physical signs, confirmed by the x-ray and clinched by the biopsy.

D. S., male, aged 32, was first seen February 21, 1931; he complained of cough and loss of weight and strength. He has been coughing all his life, but considered himself perfectly healthy until seven months ago when his cough became bad. He lost twenty-eight pounds in weight. He had no nightsweats and no hemoptysis. The last few weeks the cough was nearly continuous, causing chest pains and shortness of breath. His family history is negative for tuberculosis and cancer. He denies venereal infection. He smokes a package of cigarettes a day; does not use alcohol.

The patient is of short build, poorly nourished, looks sallow and cyanotic. He weighs 124 pounds; his pulse is 100, breathing labored, blood pressure, 130 over 85. The epitrochlear glands are enlarged on both sides and there is a hard gland in the right supraclavicular space 1½ cm. by ½ cm., just beneath the insertion of the cleido-mastoid muscle. The throat looks irritated, he has pyorrhea, the tonsils are small and contain exudate in the crypts. The chest shows many positive physical signs and they are mainly on the right side. The respiratory movement is lagging on the right, the voice comes through feebly to touch and hearing. Percussion yields hyperresonance anteriorly and dulness at the base. The breath sounds are feeble,

bronchial near the sternum, at the third interspace; there are numerous wheezing and dry rales all over the chest. Whispered pectoriloquy extends down to the sixth dorsal spine. The heart is negative.

The blood Wassermann is negative. The sputum contains no tubercle bacilli. The blood count showed 34,900 white cells with polymorphonuclears, 80 per cent.; large mononuclears, 8 per cent.; lymphocytes, 9 per cent., and eosinophiles, 3 per cent.



Fig. 1. Roentgenogram, March 1, 1931. Lobulated mediastinal mass. Atelectasis at cardio-hepatic angle. Heart and large vessels displaced to right.

The meaning of the chest signs is definite; they point to combined, complete and partial stenosis of the right bronchial tree. Complete stenosis of a bronchus causes atelectasis; partial, by acting as a valve and letting more air in than out, causes emphysema. Hence the combination of hyperresonance and dulness, feeble breathing, feeble vocal and tactile fremitus, etc. And in view of the adenopathy and the positive d'Espine's sign we can make a fair guess as to the pathology in the mediastinum. Leukemia is ruled out by the blood count; syphilis by the negative Wassermann and the absence of other typical signs; tuberculosis—by the absence of the tubercle bacilli. Bronchial carcinoma cannot be ruled out at this stage and must be considered with Hodgkin's disease. We get additional information from the x-ray. The roentgenogram taken on March 1 shows an increase of hilum shadows and a localized dense shadow in the cardio-hepatic angle which may be an encysted pleural effusion or a partial atelectasis. The lobulated hilum mass and the absence of discrete nodes in the lung permit a diagnosis of Hodgkin's disease. In retrospect, we may state that the mediastinum appears on the plate displaced to the right and that this displacement would mark the shadow in the cardio-hepatic angle as atelectasis rather than fluid. Under the fluoroscope, the heart and large arteries presented an interesting phenomenon: they could plainly be seen moving with each inspiration to the right and back to the left with each expiration. This respiratory movement of the mediastinum is due to the stenosis of the right bronchus. With each inspiration air rushes into the bronchial tree; but owing to the partial obstruction of the bronchus, not enough air rushes in to fill out the expanded chest cavity. A negative intrapleural pressure is created with each inspiration which pulls the mediastinum to the affected side. During expiration, the chest cavity shrinks, the intropleural pressure rises and pushes the mediastinum back to the other side.

A specimen from the supraclavicular gland was removed by Dr. Joseph Narat. It is of interest to note that what appeared to palpation as a hard discrete gland proved at the operation to be the hard head of a long chain of matted together soft glands. Six days after the dissection, the gland that had yielded the specimen had grown into a hard mass, twice the size of a walnut.

The pathological diagnosis of Hodgkin's disease was made by Dr. S A. Levinson. The slide shows fibrous tissue and a variety of cells: a few lymphocytes, many endothelial cells, some in a state of mitosis, giant cells with one or more vesicular nuclei—Dorothy Reed cells —eosinophilic granulocytes. The gland represents a late stage of Hodgkin's disease.

Treatment and course. The result of x-ray irradiation was typical. Inside of three days a striking improvement took place. First the cough got better and the shortness of breath disappeared; appetite and strength came back. In three weeks the man was ready to go back to his work as school janitor. The physical signs over the right lung rapidly gave way to the norm. The supraclavicular tumor disappeared, but the cubital glands did not change. The roentgenograms of March 7 and April 18 show how the hilum shadows clear up and the density in the cardio-hepatic angle



Fig. 2. Roentgenogram, March 7. Hilum mass of less density.

gives way to normal lung tissue. A blood count taken April 29 showed: red cells, 6,050,000; hemoglobin, 90 per cent.; white cells, 15,700; polymorphonuclears, 74 per cent,; large mononuclears, 5 per cent.; lymphocytes, 17 per cent.; eosinophiles, 4 per cent. July



Fig. 3. Roentgenogram, April 18. Heart and large vessels in normal place. Cardio-hepatic angle clear. Hilum shadows smaller and of lessened density.

8 the number of leukocytes had decreased to 11,850 with little change in the differential count. The immediate striking therapeutic effect of irradiation is so common as to be diagnostic. The ultimate prognosis is not favorable.

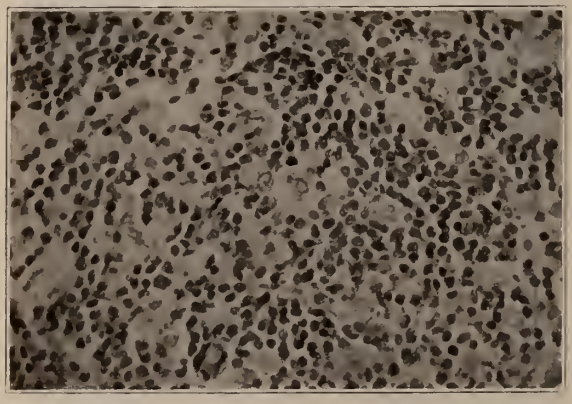


Fig. 4. Microphotogram from supraclavicular gland. High power magnification. Numerous Dorothy Reed and endothelial cells.

1. Adenopathy and the physical signs of bronchial stenosis permit the probable diagnosis of Hodgkin's disease of the mediastinum.

2. The movement of the mediastinum to the affected side on the fluoroscopic screen is a simple and positive sign of bronchial stenosis.

3. The hard supraclavicular gland that is found in Hodgkin's disease of the mediastinum belongs to the late, cicatricial stage of the disease. It is very likely that large lymphatic glands in the early stage of Hodgkin's disease escape detection by palpation because of their softness. While looking for biopsy material in cases of doubtful diagnosis this consideration may prove useful.

LUETIC AORTITIS*
A CLINICO-PATHOLOGICAL RESUME

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Stimulated by the frequency of syphilis of the aorta in clinic and private patients, and at the postmortem table; by the seriousness of this form of visceral syphilis; by the number of cases that are not diagnosed early; and by the various therapeutic procedures in these cases, I chose this subject for discussion today.

Pathology: Syphilis of the aorta is essentially a disease of the media—the most important layer of the aorta, since it normally contains the elastic fibres besides the muscle fibres. You can readily see the seriousness when the elastic fibres—the very "life" of the aorta—are destroyed and replaced by fibrous tissue, in reality small gummae.

The first part of the aorta is most commonly involved, thus making this disease the more treacherous for reasons that will be discussed later. It is held that the abundancy of vaso-vasorum in the first part of the aorta predisposes it in the following manner. The spirochetes enter the vaso-vasorum. A perivascular infiltration is set up, and thus the adventitia is involved. The media now begins to suffer in two ways. One is the result of limited blood supply, the other is the direct invasion of the media by the spirochetes.

Instead of the yellow, smooth aorta, one sees spots or "islands" of fold-like elevation, bluish-gray in color and of a hard consistency. The depressions between the elevations are pinkish representing small blood vessels. The intima appears to be wrinkled, but the calcification and

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†Autopsies cited were studied recently at the pathological institute of Prof. Erdheim, Vienna, Austria.

fatty changes that one sees in arterio-sclerosis are missing here. These small gummae may be few and again may be multiple, varying in size from a few millimeters to centimeters in diameter, and are of an irregular outline.

Complications: These make this disease more serious. Lues of the first part of the aorta may involve the mouths of the coronary arteries, stenosing or entirely sealing the openings of these vessels, or it may cause an aortic insufficiency. Very often it causes one or both in the same patient. The result of these two complications you very well know. Aneurismal dilatation is the third complication. This may happen in any part of the aorta, but when it happens in the thoracic aorta, it becomes more troublesome on account of its pressure effects, and also because it is more predisposed to rupture here than in any other part of the aorta.

Now a few words regarding luetic aortic insufficiency. Syphilis does not involve the aortic leaflets proper, as the streptococci, staphylococci, meningococci, gonococci, pneumococci and many others do, but it involves the commisures through their minute blood vessels. A widening and thickening of the commisures is thus produced. This inflammation fuses the aortic cusps at their point of origin to the diseased aortic wall. The result is that they are adherent to the aortic wall, and do not hang as freely as normal valves do. Another factor that helps to produce the insufficiency is the widening of the aortic ring. The leaflets are thus stretched so when diastole occurs, the valves cannot fall back, for they are adherent and stretched, sometimes as tensely as the strings on a violin. Of course the valves proper are somewhat infiltrated and thickened, but the deformity and shrinkage of the leaflets seen in rheumatic aortic insufficiency are lacking here.

May I add here that syphilis does not cause aortic stenosis, and very rarely, if ever, does it involve the coronary arteries beyond their openings. Recent work has shown that the myocardium is very often involved, and that luetic myocarditis is not a rare clinical phenomenon as it was thought to be.

Frequency: In European clinics, one perhaps sees more cases of luetic aortitis than in similar clinics here. The study of clinical records and examination of the American literature show that cardiovascular syphilis represents 11-20% of all organic diseases of the heart. In the cardiac clinic of the University of Illinois the percentage of luetic heart disease is 15-18%. Reid, about eight years ago, reported that 3-4% of 1700 autopsies showed syphilitic lesions of the aorta. It has been shown that 80% of those who have a positive Wassermann have histologically lues of the aorta.

These figures show us the value of a routine Wassermann or Kahn test. It should be done as routinely as a urinalysis. Syphilis knows no boundaries, race or creed, it springs up when you least expect it, often surprising the physician and his patient. We shall have more to say about the Wassermann or Kahn reactions later on.

Etiology: Acquired syphilis is responsible for the majority of the cases. How soon after the primary lesion does syphilis of the aorta manifest itself? The time varies from six months, as reported by Reid, to thirty years. A number of cases are reported that the aorta was involved only months after the primary lesion, and there are few cases on record where aortitis manifested itself in the presence of the secondary lesions. Although the average time is about 12-15 years, one must never rule out luetic aortitis on the ground of too short an interval since the primary lesion. The age of acquired luetic aortitis is between 35-50, although some cases are reported at 18-20 years. Congenital luetic aortitis is not rare. It is well known in luetic infants, but clinically it manifests itself usually not earlier than between 15-20 years.

Previous non-specific infections of the aorta do not predispose it to lues, while the reverse is not rare—a bacterial endocarditis may become superimposed upon a luetic aortic insufficiency.

Symptoms: Not all luetic aortitis have symptoms. These depend greatly upon the presence of one or more of the complications mentioned above. Thus, when the coronary orifices are stenosed or when one is occluded, pain is usually present. It is an anginal pain varying in intensity, and very often referred to one or both shoulders. This pain comes on mostly after exertion and sometimes during the night. Dyspnea becomes apparent, sometimes of the paroxysmal nocturnal type—cardiac asthma—and again,

sometimes during effort. The pain is very often situated under the lower end of sternum and since belching is very often present during or after the attack, the stomach is blamed and treated.

Palpitation and tachycardia are very often present, and in some cases more complained of than pain. The latter symptom, as we know, depends much upon the sensitiveness of the individual and upon his "pain threshold," as it were.

Signs: Appreciable supracardiac dullness to the right and left of sternum, especially in the second interspace; a rough systolic murmur at the aortic area, and an accentuated second aortic sound are the usual findings in cases of a moderately long duration. Not infrequently one may see or feel a pulsation in the sternal notch, and occasionally an unequality of the radial pulses may be elicited. The roentgenogram shows a dilatation of the aorta at this stage of the disease, and the heart may be somewhat enlarged.

Early cases of luetic aortitis present very few findings upon examination. The heart is usually normal in size. There is no appreciable substernal dullness. Tones are good, as a rule. Either a short systolic murmur at the aortic area or a snapping aortic second sound or both may be present. Roentgenogram findings at this time are usually not abnormal. These patients are very often not diagnosed. The following cases illustrate this:

Mr. A. I., aged 52 years, married, insurance agent, came complaining of precordial distress, dyspnea and eructation. The pain was situated under lower end of sternum and it would come on while walking and he had to stop. His symptoms came on suddenly. He admits of having had a chancre about 15 years ago. He had been examined and treated before coming to us for "gas on stomach." Upon examination the only significant thing was a loud second aortic sound. A diagnosis of luetic aortitis was made. Both his Wassermann and Kahn came back four plus. The roentgenogram was negative. His symptoms were relieved after specific treatment. During the last 18 months he had a few short attacks of dyspnea at night.

Mrs. J. M., widow, was having cardiac asthma, pain over heart and palpitation for the last year. Previous history—one miscarriage. The only positive findings were a very short systolic at aortic area and the aortic second was somewhat accentuated. Her Wassermann was 3 plus. The diagnosis is evident. The roentgenogram was negative. For the last six months she has been receiving bismuth and feels well, except for an occasional mild attack of dyspnea at night.

Now what makes the diagnosis in these cases? the answer is, no one particular point. Certainly the physical findings, including the roentgenogram, were not decisive. In fact, many people at the age of fifty may have a slight murmur at the aortic area, or a slight accentuation of the second aortic. However, the present history, past history of infection in one and miscarriage in another, the physical findings, meager as they were; the serological tests and the response to specific therapy were all important points in arriving at the diagnosis. The response to specific treatment rules out the possibility of coronary sclerosis with a coincidental positive blood Wassermann or Kahn. That syphilis and arteriosclerosis may coexist is well known and is well illustrated by the following case:

A man of 61 was complaining of substernal pain and dyspnea. His pain was a typical angina coming on after exertion and at night. He presented a rough systolic at the aortic area with a ringing second aortic sound. The roentgenogram showed a diffuse dilatation of the aorta. His Wassermann was four plus. His blood pressure was within normal limits. A diagnosis of luetic aortitis was made and specific therapy was instituted. He did not improve and one day he died during an attack of pain. The autopsy revealed a severe arteriosclerosis covering up the patches of syphilis. The coronary mouths were patent; the left coronary was thrombosed and a myocardial infarct was found.

When the second complication—aortic insufficiency—is present, the aorta is usually widened, and the usual signs of this leakage are elicited. A systolic thrill at the aortic area, transmitted to vessels of neck, may be felt, but only rarely. An aortic-shape heart is found, and congestive heart failure may be present, besides the pain and cardiac asthma. In passing may I remark that angina and cardiac asthma become less intense and, not infrequently, disappear entirely when congestive heart failure sets in. When heart failure appears in cases of luetic aortic insufficiency, it comes suddenly as a rule, and the patient sinks very rapidly. The following case illustrates this:

Mrs. J. B., a phlegmatic house servant of 35, felt perfectly well and did her work diligently. One day, while scrubbing the floor, she developed an attack of dyspnea. This became progressively worse and in one day edema of the extremities became evident. When brought to the hospital she was very dyspneic and cyanotic. Her

apex beat was in the 6th interspace, in the mid-axillary line. Her pulse was rapid and weak, and a systolic thrill at the aortic area was present. A long, rough systolic with a long soft blowing diostolic was elicited over the entire precordium. There were many moist bubbling rales in the bases of the lungs, and the liver was enlarged and tender. She died three days later in spite of energetic medication. Pain was never present. At autopsy, one os coronary was entirely closed, while the vessels themselves were not involved. Luetic aortitic insufficiency was also found, the aorta was dilated, and the left heart was greatly hypertrophied.

Aneurisms give various symptoms depending greatly upon their situation, thus we may have cough, dyspnea, hoarseness, dysphagia, etc. The roentgenogram is very helpful to locate this condition, for very often physical signs are lacking. However, inequality of the radial pulses, and unilateral throbbing of vessels of neck, visible and palpable pulsation under upper part of sternum, and in episternal notch, and a tracheal tug should put one on guard. The aneurismal dilatations are usually above the aortic ring; hence no auscultatory findings.

Hypertension: What is the relation of luetic aortitis to hypertension? Syphilis has been suspected of causing hypertension. The older textbooks enumerate lues among the causes of hypertension. At present we know that the pathology seen in essential hypertension is an arteriosclerosis, while that of syphilis of the vessels is different. In our heart clinic, we find that about 12-14% of our cardio-vascular syphilis patients have an hypertension (a systolic pressure of over 160 mm of Hg). We must be careful in interpreting these figures, considering sex and menopause. We know how frequently hypertension appears at the menopause, and a goodly number of our women patients are around the menopause age. Recent reports in the literature, show that the incidence of syphilis in nonhypertensives and in hypertensives was practically the same.

Wassermann and Kahn tests: In late cases negatives are frequently obtained. According to reports 20-25% of cardio-vascular syphilis patients have negative Wassermann or Kahn. So you see one must never rule out cardio-vascular syphilis because of a negative Wassermann. As an example, if a patient has a lone aortic insufficiency associated with pain over the precordium or under the sternum, and is in his fifth decade, syphilis of the aorta is most probable in spite of a negative Wassermann. Pain could be accounted for on the basis of a possible coronary sclerosis at this age, but how about the aortic insufficiency? Yes, it could be rheumatic, but we know how rarely rheumatic fever involves the aortic leaflets only. And the patient is not old enough to have that rare type of aortic insufficiency caused by arteriosclerosis of the leaflets.

Roentgen-ray: The shape of the chest should be considered when interpreting fluoroscopic or roentgenogram findings. With a high position of the disphragm, the cage is small and the aorta is spread, appearing more prominent to right and left. With a low position of the diaphragm the vascular shadow is narrowed. Normally in persons under forty the ascending aorta is visualized in all views fluoroscopically. It lies behind and somewhat to the left of the sternum at level of first to third rib. No pulsation is seen to right of sternum, and the descending aorta cannot be seen very distinctly.

In a diseased or arteriosclerotic aorta a sagging or widening takes place so that pulsation appears to the right of sternum. In early cases of luetic aortitis the roentgenogram findings are not dependable, since there is not much deformity to record. In more advanced cases it is hard to differentiate them from rheumatic aortic insufficiency, aortic stenosis, narrowing of isthmus of aorta, hypertension or arteriosclerosis.

However, there are a few points that may help to differentiate luetic aortitis from arteriosclerosis. In the former the ascending portion of the aorta begins to enlarge and finally bulges out to the right of the sternum and sometimes this curve becomes angular. The "knob" of the aorta is usually somewhat stouter also. In arteriosclerosis the aorta is usually stretched and elongated so besides sagging to the right of the sternum, it also appears elongated extending upwards more. The knob is more prominent and pushed up somewhat. These points, however, are not entirely pathognomonic and clinical corroborative evidence is necessary for the diagnosis.

In view of the anatomic variations of the aorta and thorax, as a whole, various systems of measurements have decided limitations. However, there are two measurements that have a clinical value. The method of Kreuzfuchs is simple, namely: measurements of the aortic width after barium visualization of the aortic bed of the

esophagus. This measures the knob of the aorta, which is near the isthmus. Normally it varies from 2.4-2.8 cm.

To measure the root of the aorta Reich's measurement is employed. The patient is turned to the left anterior oblique position and the trachea is visualized. Then the bifurcation is found. Measure the distance between beginning of right bronchus and anterior band of aorta. This normally varies from 2.5-3 cm. This is of clinical value, but it is not exact, since the vessel band of the vena cava superior is taken in also.

Electrocardiography: In early cardiovascular syphilis the tracing falls well within normal limits. As the disease progresses some changes may appear, as inverted "T" waves in first or second lead or in both. This is usually seen in damaged hearts where the left ventricle is involved and it is not pathognomonic of any particular disease. Recently there appeared a few reports in the literature describing coronary "T" in patients with luetic aortitis. These patients had angina pectoris in life, and autopsy revealed occlusion of the mouths of the coronary arteries. One of our patients who has luetic aortitis with insufficiency, big left ventricle, gallop rhythm, hypertension, cardiac asthma, and pain under sternum, shows inverted T_1 and T_2 of coronary type and widening and splintering of all Q R S complexes.

Diagnosis: There is no one point on which a diagnosis of syphilis of the aorta rests. Consideration of all observations, both laboratory and clinical, and sometimes the result of the therapeutic test, is essential in arriving at a diagnosis. More attention should be paid to the aortic arch in the average physical examination, and the fact that cardiovascular syphilis is frequent, should be more appreciated by the practitioner. In any adult in whom organic heart disease seems to be present, lues should be considered.

Differential Diagnosis: Non-specific aortitis should be mentioned. This type of aortic disease is seen in acute infections as rheumatic fever, influenza, malignant endocarditis, and in the exanthemata, and it tends to recovery.

Arteriosclerosis: This condition is not easy to differentiate from luetic aortitis, and the difficulties have already been discussed since the findings are similar, and since both may be present in the same patient. Age may help, but response to treatment is of greater value.

Hypertension: This condition very often gives a rough systolic at aortic area and an accentuation of second aortic. Pain may and may not be present. A positive Wassermann or Kahn is a very helpful factor while the therapeutic test is more decisive. Both of these factors merely show that we have two conditions. The hypertension itself is probably not a part of cardiovascular syphilis, and not influenced by specific therapy.

Aortic Stenosis: The intensity of the systolic murmur is of value. In aortic stenosis it is long drawn out, so that the second aortic is hardly audible, and sometimes not audible at all. In luetic aortitis the second aortic is almost invariably accentuated. Pulse of aortic stenosis is characteristic: it is the pulsus tardus type, plateau-like without any peak to it. The history of the patient may be of some aid also.

Rheumatic Endocarditis: Very often it is found very difficult to differentiate between a luetic aortic insufficiency with an Austin Flint murmur and rheumatic aortic insufficiency with a double mitral. The character of the murmur is not pathognomonic, for an Austin Flint murmur may assume the same quality as the mid-diastolic rumble of mitral stenosis. The presence of a rheumatic history in the face of a positive Wassermann complicates matters still more, and at times, it baffles even the most experienced.

However, there are several points which may be of value. Pain, inequality of the radial pulses, peripheral findings of aortic insufficiency and aortic-shape heart, and diffuse dilatation of the aorta speak for a luetic infection of the aorta. On the other hand, absence of Corrigan pulse, the presence of diffuse precordial pulsation; definitely palpable second pulmonic sound and a heaving in pulmonic area; heart of a mitral configuration; large left auricle; impinging upon the esophagus; and electrocardiogram findings of mitral stenosis point strongly to rheumatic mitral and aortic even in the presence of a positive Wassermann reaction. Nevertheless there are cases where distinct doubt must remain, and resort to the therapeutic test is then justified. However, the coexistence of both conditions—rheumatic disease of the mitral

valve, and luetic process of the aortic leaflets—seen at autopsy has been reported.

Prognosis: On the whole it is grave. Cardiovascular syphilis, after a latent period of varying length, tends to become a progressive disease. It maims and kills those in prime of life. Approximately one-half develop aortic insufficiency, and one-fourth aneurisms of aorta. The prognosis depends much upon which of the complications is present, and upon the institution of early therapy. Once severe damage is done, as aortic insufficiency, myocardial involvement, or dilatation of aorta, therapy may improve the symptoms, but it can do no more.

Treatment: Differences of opinion exist as to the treatment of cardiovascular syphilis. Some clinicians omit arsenicals altogether, others give this drug, but prepare the patient first with iodides and bismuth, while still others begin with arsenicals, though cautiously. The end result of these various methods seems to be the same, and the fear that arsenicals may cause rupture of the luetic aorta is, perhaps, somewhat overemphasized.

Two contraindications for specific treatment should be universally recognized. One is a damaged and decompensated heart. Rest and digitalis are of prime importance. Iodides may be given, but the metals should be withheld, thus not burdening a damaged and weak myocardium.

The second is the presence of angina pectoris. Here arsenicals are strictly prohibited for fear of causing a local Herxheimer reaction — vasodilatation and edema in the aorta at the mouths of the coronary vessels that are already infiltrated and not infrequently partially occluded —and sudden death. In these cases only iodides and bismuth or mercury should be given.

The safest method of treatment of cardiovascular syphilis is the one that advocates bismuth and iodides for several courses of 6-8 weeks each with the proper rest interval between, and then possibly arsenicals. The latter should be given in very small doses beginning with 0.15 gm. and not exceeding 0.45 gm. This should be given weekly from 8-10 weeks, substituting each time for a bismuth course.

In early cases and where the aorta is fluoroscopically within normal limits, the arsenicals may be given in the form of Neoarsphenamine intravenously. But in those cases where there is already slight dilatation of the aorta, it is best to administer this metal intramuscularly, employing a suitable preparation. In the presence of an aneurism it is advisable to leave out the arsenicals entirely. Their value at this stage is questionable at the best, and the administration of them is not altogether devoid of risk.

Needless to say that patient should be closely observed when arsenicals are given. Attention should be paid to even the slightest complaints referable to the cardiovascular system. Fluoroscopic examination should be done frequently. Treatment should be discontinued if symptoms are aggravated.

Beneficial effects are usually symptomatic and not anatomic. Arrest of the inflammatory focus is the hope of the treatment. A higher percentage of improvement is noted in patients who have syphiliticaortitis without aneurism or aortic insufficiency. If treatment seems to be of benefit and the patient can stand it, it is advisable to continue it for a few years. The Wassermann reaction should not be a guide for it does not always parallel symptomatic improvement, and reversing it should not be the main aim, except as an encouragement to the patient.

In conclusion, I wish to say that the morbidity and mortality from cardiovascular syphilis could be reduced and also, to a certain degree, prevented. We can accomplish this only after we begin to appreciate more the frequency of leutic heart disease and thus suspect it in any adult in whom organic heart disease seems to be present. It should be realized that only early diagnosis and early therapy offer some hope to the patient, and that no heart of an adult who presents cardiovascular symptoms, should be pronounced "perfectly sound" just because the stethoscope failed to reveal any gross abnormalities.

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DISCUSSION

Dr. N. S. Davis, III (Chicago): Mr. Chairman, I am very much interested in this very excellent presentation of the subject by Dr. Feldman. I think that there are two or three points to emphasize. One is that in luetic heart disease we get positive Wassermann's tests in only about 80 per cent. of the cases, whereas you might expect that if you were going to get positive Wassermanns in any group of cases it would be those in which the blood vessels themselves were involved.

In the differential diagnosis, I think there is one thing to be mentioned that we see not infrequently in patients of the same age as those who are apt to get the luetic aortitis, in the forties and fifties—that is, a somewhat dilated aorta that is found in many of the hypertensive heart cases. You get almost as much dilatation as you do in the syphilitic. Of course you may have both a hypertensive disease and a syphilitic disease in the same patient; but, on the whole, you are not apt to get as high a pressure in the syphilitic aortitis with dilatation as you do in the cases of hypertensive disease with dilatation of the aorta.

Another point to emphasize is that in these syphilitic cases when heart failure symptoms arise, the prognosis is much worse than in either the hypertensive form or in the rheumatic form, although occasionally we see a case, such as I have in the hospital now, who has a syphilitic heart and also tabes, and who has been under observation for three or four years since the first onset of the symptoms of heart failure. He has been in the hospital on two or three occasions and now has been in for several months; but in the meantime he has been able to do light work off and on—work as a watchman or something of that sort.

I think that some of the bismuth and arsenical preparations for intramuscular injection are perhaps particularly good in this type of case; but the main thing is to be very careful in your use of therapy and rely rather on small doses over a long period of time than on the usual intensive therapy.

Dr. Walter S. Priest (Chicago): I would like to call attention to a group of patients, with which I am sure Dr. Feldman is acquainted, who have luetic aortitis and yet who are in the thirties and early forties rather than later on, as most of them are. The cases of sudden cardiac death which we see in the thirties and even in the early forties are more frequently due to a luetic aortitis than I think we generally believe. In these patients the cardiac symptoms are apt to be lacking or very slight.

I recall one such patient, a woman of thirty-five, who came to the office with symptoms pointing mainly to a gall bladder disturbance, went home that day preparing to come into the hospital the following morning for observation, had a severe attack of epigastric pain that night, developed pulmonary edema very quickly, and died within a few hours. At autopsy she had the most marked luetic aortitis I ever saw.

Of course, luetic aortitis can be associated with arteriosclerosis, so that in the same patient you may have both luetic aortitis and sclerosis of the coronary arteries, which makes the diagnosis difficult and which may not be determined except at the postmortem table.

Dr. L. Feldman (Chicago): I wish to thank the doctors for their interesting discussions. Now, to differentiate between the findings in hypertension and those of luetic aortitis is not easy, for both give similar heart findings. The Wassermann reaction, when positive is of course of much value; but response to specific therapy, I mean the alleviation of symptoms, is of equal value; but these factors do not tell us which of the two conditions is responsible for the findings. Regarding the height of the systolic pressure in luetics, our impression has been that it can go up as high as in hypertensives. I have in mind a few patients in our clinic whose systolic has been around 220-240 for a long time. True, we have not seen readings of 280 or 300, and that may be because they do not live long enough.

THE TREATMENT OF PULMONARY TUBERCULOSIS

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Within the past fifteen years the treatment of pulmonary tuberculosis has been complicated by the development of collapse therapy. I say complicated because before that time the physician treating the disease felt that his responsibility was ended if he put the patient to bed, bolstered up his morale, or perhaps sent him to the southwest. The treatment was largely a matter of watchful waiting and there was little to be done if progress was not in the right direction.

Today the treatment of tuberculosis is one of the most difficult branches of the medical art. The value of climate has been shown to be slight and rest in bed to be the basis rather than the structure of the therapy. Each case from day to day, from week to week, and from month to month presents problems and emergency situations which are not the less real because they develop slowly and are heralded by no striking symptoms or signs. To start artificial pneumothorax or to perform a thoracoplasty when the patients would have recovered without them must be avoided and yet in many cases to delay a day or a week too long is to have denied the patient the one chance that he had for recovery.

Such problems arise in practically every case and in looking through any series of serial roentgenograms of patients dead or hopelessly advanced, one can pick out points at which he can say, "At this point phrenicectomy would have been possible,—at this place artificial pneumothorax should have been done,—here thoracoplasty, etc.," until he comes to a place where he can say only, "At this point it became too late for any form of collapse therapy."

Because the treatment of tuberculosis now makes great demands upon the physician's skill, experience and judgment, because it has become an active art rather than a passive drag, the question of which sanitarium a patient shall be sent to has become definitely secondary to the choice of the physician to whose care he shall be entrusted. It is no longer enough that he have a pretty room and a fair prospect from his window.

The development of collapse therapy has been slow. It has had to overcome skepticism and opposition and has been able to do it only by the presentation of statistics, which defy argument. Not the least obstacle in its path has been the nature of the disease. Tuberculosis never seems as serious as it is. Walking through a sanitarium and seeing the apparent soundness of the patients, a large percentage of them present the picture of health, it is hard to realize that without collapse therapy fifty per cent. of them will die of the disease within five years,—more in the next five years, and still more in the next. In spite of these statistics, it is hard in any given case for the doctor and even more so for the patient, who does not look or feel especially ill, to realize that an emergency may exist and to decide on some more radical course of therapy. It is hard to realize that it is a greater mistake not to start collapse therapy when it is indicated, than not to recognize and operate upon a case of acute appendicitis. Most cases of moderately or far advanced tuberculosis will die unless the diseased lung is further rested. I talked recently with a specialist in tuberculosis who was extremely pessimistic about the eventual recovery of anyone with active disease, who still was more extremely conservative about advocating collapse. It was simply that in his mind rest in bed had always been the treatment for tuberculosis and he saw no reason to change.

The basis of collapse therapy is extremely rational. We have but one specific remedy for tuberculosis—rest. In whatever organ of the body tuberculous infection occurs, putting that part absolutely at rest is the single therapeutic measure which can be counted on to discourage spread and favor healing. The parts of the body most frequently and seriously attacked by the disease are those subject to motion. These are the lungs, the joints, the larynx and the bowels. The treatment for tuberculosis of the larynx is silence, of the joints fixation, of the bowels opium and colostomy and of the lungs rest in bed and the measures for inducing local rest.

All of the surgical procedures used in the treatment of pulmonary tuberculosis aim to put more completely at rest and to collapse the parts of the lungs affected by the disease. These procedures are extraction of the phrenic nerve, artificial pneumothorax, and extrapleural thoracoplasty. Numerous other operations have been used and are being developed, but the indications for them are doubtful and the benefits in question.

The most important question in connection with this subject is that of indications. When is one to apply which procedure? At present there is no rule to follow. As with most new and many old surgical procedures there has been a tendency to apply these only as an extreme measure. At the present time there is a definite and rapid trend towards their earlier application.

It seems logical that since rest is the sole remedy we have for tuberculosis that this should be applied as early as possible and as completely as possible. There should be the single restriction that the risk and disability incident to the procedure be not greater than that incident to the disease.

In malaria one does not wait to give quinine or in syphilis to give arsenic until the patient is nearly dead; nor does he withold operation in acute appendicitis because he knows that 80% of the patients will recover without it. In each instance the remedy is applied as soon as the diagnosis is made because the risk incident to it is less than that incident to the disease.

There is no risk connected with blocking or extracting the phrenic nerve and very little with artificial pneumothorax. Thoracoplasty, a pro-

cedure employed only when rest in bed and all other measures have failed, has a mortality of only 5%.

One hesitates to make radical statements knowing how often the course of events renders them ridiculous; but I do not feel that one is radical in advocating the early application of collapse therapy in tuberculosis. One knows that it is efficacious, that it carries little or no risk, and that the disease is extremely serious.

It is my opinion that every case of unilateral pulmonary tuberculosis, and many that are bilateral, should be treated surgically. Because blocking or extraction of the phrenic nerve is the least serious procedure, I feel that that should be tried first. If, following this, progress is not satisfactory, artificial pneumothorax should be instituted. If one or both of these are done early, the indications for thoracoplasty will practically disappear and the case that does come to it will be charged to the negligence of the directing physicians.

In advocating induction of paralysis of the hemidiaphragm before artificial pneumothorax, there are many factors to be considered. Those opposed to it will present many objections. They will say first of all that it is permanent. To this one can say firstly, that it is not permanent if the nerve is blocked rather than extracted, secondly, he can say that once a person has had moderately advanced tuberculosis in a lung some permanent rest of that lung is advisable to insure against reactivation.

Others will say that paralysis of the hemidiaphragm does little if any good and that it is useless to temporize before proceeding to artificial pneumothorax which provides a more complete and satisfactory collapse. It has been my experience in a series of over 300 cases treated by phrenicectomy that it is of definite value inducing arrest in many cases, even those far advanced, and cutting down decidedly the indications for artificial pneumothorax and thoracoplasty. Furthermore, it is my belief, and that of many others, that every patient who has pneumothorax should have also a phrenicectomy. Not only does a paralyzed diaphragm aid in the collapse but it permits one to discontinue the treatment earlier. The paralyzed diaphragm rises as the air absorbs more easily than the diseased lung re-expands, with the result that one obtains a partial permanent collapse of the affected part.

How long one should wait after phrenicectomy before proceeding to artificial pneumothorax varies with each case. It is my tendency at the present time to start the pneumothorax early, sometimes at the same time as the operation and then, depending upon the degree of involvement, allow an early gradual re-expansion.

NON-TUBERCULOUS SPONTANEOUS PNEUMOTHORAX

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In a review of the literature on the subject of spontaneous pneumothorax of non-tuberculous origin, one gets the impression that this condition is relatively rare and that up to the present time there are only about 200 cases on record. We are taking this opportunity of reporting 12 cases, all of whom are from private practice and were seen incidentally in the course of our routine work. It would be impossible to say how many patients have had this accidental condition who have never seen a physician, or the number that have been unrecognized especially in the days before complete x-ray examinations. The largest number of cases of spontaneous pneumothorax that have been reported are those cases that have occurred in the course of a pulmonary tuberculosis.

In the present discussion I am not concerned with those of tuberculous origin but simply desire to impress upon you that the so-called idiopathic or non-tuberculous spontaneous pneumothorax occurs frequently and it is a matter of close study of each individual chest coming to us for examination. It has been our experience that there is no definite etiological factor for the causation of this condition. That while we have cases which have occurred following heavy lifting, playing football, or other types of undue exertion, yet there are some in our series where the rupture of the pleura has followed no apparent external influence whatever. This ex-

perience corresponds with that reported in the medical literature.

We are deeply appreciative of the fact that one of the most popular ideas is based on the presence of emphysematous blebs on the surface of the lung which rupturing permits the air to enter the pleural cavity and produce the typical clinical picture of a pneumothorax. There is nothing in the physical findings or the x-ray findings of the side involved to differentiate this condition from that of a similar process occurring in the course of a pulmonary tuberculosis yet the following clinical exceptions must be considered:

1. That the history as given by the patient fails to reveal any symptoms that might be interpreted as being due to infection with the bacillus of Koch.

2. That the contralateral lung usually involved is free from disease in contradistinction to our experience that in patients afflicted with tuberculosis in whom we find a spontaneous pneumothorax, we also find extensive involvement in the other lung.

3. It has been our experience that only one of our patients developed fluid in contradistinction to the findings in the field of tuberculosis that if the patient survives the rupture of the pleura for any length of time, fluid invariably appears.

4. There are patients who have had little or no rise of temperature and were, in fact, free from all symptoms except those incidental to the mechanics involved, namely, chest pains and dyspnea.

5. That all attempts to establish a diagnosis of tuberculosis by laboratory methods or animal inoculation fail to demonstrate the presence of the tubercle bacillus.

Treatment. We have placed our cases in institutions and have given them the classical rest treatment employed in sanatorium care. We have kept patients at home and found that our results were as good in one method of care as in the other. Rest in bed following the occurrence is imperative and this rest should continue until all subjective symptoms have disappeared. In the majority of our patients the air was absorbed very rapidly so that at the end of four to six weeks the lung had re-expanded. In one of our patients about four months elapsed before complete expansion occurred. With this patient we employed the blowing-in-bottle method of attempting lung expansion and believe that it accelerated her recovery.

Of the 12 patients on whom we are reporting, there have been 9 males and 3 females. Eight patients have had a right sided involvement and 4 have had a left. The age group has varied from 18 to 49 years of age. The occupation has varied from that of school boys in two cases to office workers and laborers. As far as could be elicited from the history, the majority of our patients were in those occupations that did not entail severe physical strength.

Case 1. Female, aged 30 years, cashier, first seen August 17, 1923. Her only symptoms at time of examination were those of cough and palpitation. While at work in a cashier's booth developed a sudden pain in the right chest. A clinical diagnosis of right sided pneumothorax was made. This was our only patient that in the course of treatment developed fluid. Rest in bed four weeks was the only treatment employed. The patient has been seen at frequent intervals since that time. There has been no recurrence of the condition or any evidence, by any method of study, that tuberculosis was the cause of the pneumothorax. The patient has since married, has retained her position, and when last seen, June 8, 1931, lungs apparently free of any pathological condition.

Case 2. Male, aged 36 years, salesman, first seen February 27, 1924. Stated that two weeks previously had a pain in his right side. Aside from dyspnea and a slight pain in the right chest, he was free from symptoms. A right sided pneumothorax was found. It is of interest that in this case the Coin test was positive—the only case in our series. He made an uneventful recovery. He has been seen at intervals since then and has remained free from any and all trouble referable to his chest. Five years ago he was operated upon for a complete extirpation of the gall bladder.

Case 3. Male, aged 30 years, laborer, first seen October 17, 1927. Following undue exertion, while at work, pain developed in the right chest. A right sided pneumothorax was found. Complete recovery following rest in bed. No further symptoms or findings have developed since 1927.

Case 4. Male, aged 31 years, accountant, first seen November 10, 1928. Stated that two weeks previously had developed a sudden pain in the right chest. A right sided pneumothorax was found. Patient put to bed at home. Complete recovery. His physician reports him as well and free from any evidence of chest disease at the present time.

Case 5. Male, aged 19 years, college student, first seen June 27, 1927. While playing basket ball developed a marked palpitation; no pain, no dyspnea. A left sided pneumothorax was found. This patient has

been seen by me at intervals since then and has remained well.

Case 6. Male, aged 42 years, clerk, first seen September 3, 1929. Had marked dyspnea as his only symptom; no pain at any time. A right sided pneumothorax was found. The usual home treatment resulted in complete recovery. No untoward developments since that time.

Case 7. Female, aged 28 years, housewife by occupation, first seen April 12, 1930. Complaining of pain in the left chest and cough. A left sided pneumothorax found on examination, her heart dislocated to the right. Received hospital care; made a complete recovery. One year later gave birth to a child. No recurrence of symptoms. Six months ago reexamined and found negative for any lung disease.

Case 8. Female, aged 21 years, typist by occupation, first seen May 6, 1929. Sudden pain in the left chest a few days previously. A left sided pneumothorax present. She was in a sanatorium for four months. This patient's lung showed no tendency to expand under treatment until we resorted to having her blow in a quart milk bottle as an aid to reexpansion. This patient was seen a few weeks ago. There has been no recurrence of the condition and there is no evidence of a tuberculosis.

Case 9. Male, aged 49 years, merchant, first seen September 15, 1928. Complaining of marked dyspnea and pain in the right chest. This had followed in the course of a golf game. A right sided pneumothorax was found. Hospital care for four weeks resulted in complete absorption of the air. Patient seen a short time ago; no further lung findings.

Case 10. Male, aged 19 years, a bank clerk, first seen November 6, 1926. A few days previously developed a severe pain in the left shoulder while attempting to lift a heavy mail bag. A left sided pneumothorax was found. He was placed in a sanatorium for six weeks. Complete recovery. A year later was reexamined and found free from all evidences of lung disease.

Case 11. Male, aged 18 years, office work in a hospital, first seen March 9, 1929. Without any previous warning developed a pain in the right chest. Tuberculosis was strongly suspected in this case owing to the fact that he had lived in the same home with a sister who was an active case of pulmonary tuberculosis. A right sided pneumothorax was found, but no evidence of a pulmonary tuberculosis. He was placed in a sanatorium where he remained six weeks. An apparently complete recovery was made. He has been reexamined at frequent intervals but has never shown any evidence of tuberculous disease nor presented any symptoms suggestive of its presence. He is working as a night clerk at the hospital and attending medical school during the day.

Case 12. Male, aged 18 years, student, first seen January, 1931. While engaged in a basketball game developed a sudden pain in the right chest. A right sided pneumothorax was found. Rest in bed at home for three weeks resulted in complete absorption and lung expansion. The boy is back in school and his physician reports no lung findings.

Comments. From the foregoing cases it must be apparent that contrary to the popular belief, tuberculosis is not the cause of all cases of spontaneous pneumothorax.

That the frequency of this condition, especially in the course of private practice, is undoubtedly greater than the reports in the literature lead one to believe.

That the condition is readily amenable to treatment in the way of complete bed rest.

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FACTORS INFLUENCING SUCCESSFUL PROSTATECTOMY*

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By the phrase successful prostatectomy, we mean the removal of vesical obstruction due to changes in the size and configuration of the prostate gland without consequent loss of life, with return of function to the bladder and the patient to a useful active life and not to a condition of invalidism.

When this title was suggested and accepted, we did not at the moment realize how comprehensive it would be, carrying as it does the implication of reduced mortality and morbidity and the importance of the economic phase of the last mentioned term. Thus we must consider all those factors, negative as well as positive; those which we control as well as those beyond our ken and influence.

As to the etiology of prostatism, we can do no better than to refer you to the now classic quotation from Sir. Benjamin Brodie:[1]

"When the hair becomes gray and thin, when atheromatous deposits invade the arterial walls, when there is formed a white zone about the cornea, at the same time ordinarily, I dare say invariably the prostate increases in volume."

Our statistics and those of others show that most of the patients seeking relief from prostatic disease do so between the age of sixty-five and sixty-nine years and that the average age is

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sixty-eight and eight-tenths years. More than eighty-five per cent. are afflicted between the ages of fifty-five and seventy-nine years. Age then is one of the vital factors with which we are concerned, though it is the age of the disease more than the age of the patient.

While it is not our desire to enter into the pathology of prostatism, we wish to point out that in a large number of cases, approximately sixty-five per cent. of those who are finally forced to seek surgical relief, symptoms of prostatic disease have been present for four or more years. In other words, because of failure of recognition, or failure to impress the patient with the gravity of this condition, this large group of patients continue to suffer from the effects of a progressive disease which involves first the renal-cardio-vascular combination and later manifests itself in the diminished efficiency of the other functions of the organism.

What is the significance of this failure to recognize the disease, or the failure to impress the patient with the need of adequate therapy? Its significance lies in the fact that most of these patients, unless they die meanwhile, will present themselves for proper treatment when the ravages of the disease has made them poor surgical risks and has produced a condition akin to general debility. Specifically, they are left with a badly damaged urinary mechanism, with a bladder whose function was already reacting to the effects of a senescent fibrosis when the additional burden of overcoming obstruction to the urinary stream was placed upon it.

It is quite obvious that the more advanced these changes are in the bladder, the less we may hope for in the return of function approximating the normal. There is little doubt that in a large percentage of cases prostatectomy done as a last resort on patients whose history extends back many years does little more than reduce the severity of the symptoms and does not, and never can, produce a cure.

The responsibility for the late operative treatment of the patient with prostatic disease does not rest alone on the general practitioner, the general surgeon or the internist. Surprising though it may be, many urologists have shown a tendency to delay operation until bladder decompensation has been established, to consider the degree of such decompensation as shown by the amount of residual urine as the indication for operation, or to wait until the symptoms are pronounced and the patient unable to endure longer—all palliative measures having failed. This attitude is not less culpable than that of those outside of the urological specialty who permit patients to go on to complete retention and even then refer them to surgery, only when catheterization is no longer possible, or when exhaustive search of the pharmacopeia fails to yield a drug which will ameliorate the intensity of the symptoms.

At one stage in the development of prostatic surgery, the above practices were unquestionably more commendable because the high mortality of suprapubic prostatectomy made operative procedure the greater of two evils, and sincere medical advisers certainly hesitated to recommend such a dangerous type of therapy to a man whose productive years might still have been many. Possibly some of the indications mentioned, and unfortunately still adhered to by many, are an inheritance from the age of perilous prostatectomy intensified by the admirably normal instinct to preserve life as long as possible. Thus we join Edwards[2] in his strong condemnation of the practice of "cooking a prostate" until it is bad enough for operation.

It is our belief that any patient having the usual symptoms of, or symptoms suggesting prostatic disease, with or without residual urine, and who on examination shows any of the stigmata thereof, viz: enlargement of the gland on digital palpation, and on cystoscopic examination such features as elongation of posterior urethra, trabeculation of the obstructive type, hypertrophy of the trigone, intrusion of adenomatous tissue into the posterior. or prostatic urethra or beyond the vesical neck, is then and there without further procrastination entitled to that type of medical management and surgical treatment which will most safely remove the condition threatening his well-being and reducing his expectancy of life.

Reduction of the average age at which the patient is presented for surgical relief, with the consequent reduction in the degree of pathologic and degenerative changes, which occur in the renal-cardio-vascular system and are directly and indirectly responsible for those disease entities which so often complicate prostatic surgery,

is the first step in making a successful prostatectomy.

Advocates of palliative treatment are not lacking, but do they fully realize that since their methods are palliative, rather than curative, the great majority of their patients must ultimately yield to surgery when they are least fitted for it and that many may and have succumbed to the very methods which were expected to palliate their misery? Until we have some basic principle of glandular or specific chemical therapy which, when used, will definitely remove the pathologic prostate from the field of surgery, then only can we abandon surgical intervention.

In the following we have attempted to give those additional factors which we believe influence successful prostatectomy. Our practice and the conclusions therefrom have been based on the preprostatectomy mortality, operability, prostatectomy mortality and ultimate functional rates. Diminished vesical function in any degree gives the morbidity rate. In this way only can we arrive at any comparison of the relative values of different methods of management and treatment.

The most important factor to be discussed is undoubtedly the classification of, and preparation of the patient. This resolves itself into the clinical and laboratory estimation of his natural resources and defects to determine what resistance he has to offer to any unfavorable reaction occasioned by a procedure undertaken to restore the urinary tract to as nearly a normal state as possible. Although the literature abounds with articles on the preparation of the patient, nevertheless experience indicates that this phase, even now, has not been overemphasized.

The classification given is one that is in rather general usage and divides all patients with prostatism into four groups, viz:

A. Early cases with small or no residual urine.

B. Cases with large residual urine, with the history of catheter life.

C. Cases with large residual urine and no previous catheterization.

D. Cases with complications.

On admission all patients are subjected to the usual routine laboratory procedures, red and white cell count, hemoglobin estimation and blood pressure determination. In patients with any degree of anemia, differential blood smears are made. Wassermann is, of course, routine. A flat x-ray of the genito-urinary tract, primarily for the detection of stone and osseous metastasis, is of the utmost importance. In many cases, after a period of prolonged drainage and after blood chemistry estimation indicates a stabilization of the renal function, excretion roentgenograms are made so that some conception of the structural damage to the urinary tract may be obtained. This is one of the indications for excretion urography. Cystography is indicated in those cases where it is felt cystoscopy might not be done without unfortunate sequelae. However, there is no desire to create the impression that cystography can ever replace cystoscopy as a means of investigation. An admission blood chemistry estimation is made and on this is based the effect of subsequent treatment. Phenolsulphonphthalein estimations are not routine—being used principally in the cases of long standing disease where there has been little change in the blood chemistry reports, and it is desirable to check these—as it is not unusual to have increased excretion of phthalein with no corresponding fluctuation in the blood chemistry. The practice formerly was to run these estimations in parallel, but in the last two years this has not been found necessary, except as previously stated. The urea nitrogen and creatinine estimations are the most informative. Blood sugar estimations are made on patients with a suspicious history, or with marked arterio-sclerosis. Blood pressure readings twice daily, until no variation is noted, are of extreme importance during the drainage[3] period and indicate what one may expect from the myocardium. This is especially true when fluids are being forced and unfavorable variations of pulse pressures occur during periods when the intake is greatest. To a limited extent, this gives an index of myocardial capacity and probably also indicates the level beyond which fluid intake is dangerous during the post-operative course. Finally an index of renal function is indicated by the capacity to take and excrete fluids as shown by the daily intake and output chart, although one must not forget the limitations in so doing.

Groups A. and B. are the two groups which may be prostatectomized without delay, except

as occasioned by the regime outlined above, which may consume several days' time. During this period an indwelling catheter (of the hollow tipped, two-eyed variety of Robinson) is inserted. This enables an accurate record of output of urine, of excretion tests of other types and permits sleep which is otherwise often interrupted by nycturia. Hydration of the patient is more easily obtained prior to operation when the necessity of frequent voiding is eliminated.

Groups C and D undoubtedly represent that prostatic element which, in the previous generation, nearly always succumbed to suprapubic prostatectomy and in the run of cases all over the country still do, except when treated by the urologist or the general surgeon doing considerable urological surgery.

It is these groups which require the maximum preparation and observation. Likewise, it is here that the internist renders the greatest assistance and support, but as his work is to be discussed by another, we do nothing more than mention it. We shall discuss only the one feature of preparation not previously mentioned, namely, drainage.

Drainage, in all but the very exceptional cases, is initiated by the insertion of an indwelling catheter. The exceptions are those patients who have suffered extreme traumatization as a result of attempts to catheterize outside of the hospital and the rare case of tight stricture. Even these last may be rapidly dilated and a catheter inserted, but this practice is not recommended as a routine. The high percentage of cases drained by us with the indwelling catheter is not exceptional. Deaver, Hunt, Squier, Young, Cecil and numerous others attest to its efficiency. It is employed because of the simplicity of its introduction and because we believe it the only reliable method of decompression. We are not convinced that a closed hydrostatic system can be obtained by any of the techniques of suprapubic decompression now in vogue, (although the instrument of Kidd more nearly approaches the ideal than any other with which we are familiar)—nor are we satisfied that the dangers of rapid decompression are overcome by drawing off all, or part, of the retained urine and replacing it immediately with sterile solution. Immediately is not fast enough. In many cases it seems that the renal congestion which occurs is in the nature of a reflex and is instantaneous. The teaching[4] that the patient suffers (uremia) because the bladder once emptied is not kept emptied, is erroneous and responsible for much of the grief that has occurred during the attempted preparation of patients by this method. One instance in which the replacement technique was inadvertently put to use has convinced us that immediately is not fast enough. It cannot be questioned, however, that a bladder once emptied and allowed to become distended again is more susceptible to infectious processes. This is a different mechanism in the production of mortality than the instance cited below.

A patient whom we considered to be in good condition (with more vesical retention than was estimated by percussion) was brought to the operating room at 9:00 A. M. for a cystoscopic examination. On the introduction of the cystoscope he experienced more pain than usual, strained hard and forced the telescope, which was not securely locked, out into the operator's hand. A thumb was immediately placed over the opening in the sheath and the bladder loss replaced with sterile water. The simple observation cystoscopy was finished in a few minutes and the patient returned to his room. At 11:00 A. M. the patient was maniacal, tongue glazed and dry, skin dry and shackles were necessary to restrain him. In spite of the effort to control the situation, the patient died at 3:00 P. M. Necropsy could not be obtained.

Our uniform practice is to connect a tube to the catheter on the other end of which is a "Y" tube. This is elevated above the abdominal level to a height at which only a few drops of urine pass over into the receptacle with each respiration. The level of the tube is gradually lowered from day to day until the bladder level is reached.

The other method is to connect six to eight inches of gum rubber tube to the catheter. The other end of this is closed by a Murphy clamp. Decompression is accomplished by allowing one ounce of urine to escape at the first evacuation and an ounce additional every two hours until the bladder is completely drained. Blood pressure readings are an important control at this time.

Group D. represents those patients in whom it is impossible to insert a catheter because of

trauma or trauma and hemorrhage resulting from previous attempts to catheterize, or as a result of repeated catheterization; the occasional patient who is markedly irritated by the presence of a catheter; those with urethritis and periurethritis; abscess of the lower urinary tract or calculus. It is also necessary to include the senile patient, who is constantly toying with the catheter, and the patient of any age who is always adjusting it feeling that he can do it just a little better than his physician. These cases fall into the category in which suprapubic drainage gives the best ultimate result. Where the residual is considerable, as determined by physical examination or urography, drainage is attempted by the indwelling character, even when the use of sedatives may be necessary to make it tolerable. Suprapubic drainage is made a few days later. In prostatic obstruction, complicated by diverticuli, one may invariably drain with an indwelling catheter with utmost satisfaction.

The next factor of importance is the operative procedures concerned in the management of the prostatic. As intimated elsewhere, cystoscopy is made whenever there is no contra-indication. If one did not examine patients in this manner, he could not truthfully advise them as to their condition and would be lacking sufficient data to achieve satisfactory results in the majority of patients.

The operation of vasectomy is of importance because the epididymitis that may follow, or even precede prostatectomy, is often more of a threat to life than prostatectomy itself. Vas ligation and vasectomy have done more to eliminate this complication than any one other procedure. We formerly performed subcutaneous vas ligation, using at first silkworm and then chromic gut. The first was difficult to remove in some patients. With the latter epididmitis has occurred as a much delayed complication. Vasectomy takes but a few minutes longer, the integrity of the vas is destroyed by resecting as much as one centimeter and there is no secondary complication. It is a surgical procedure and more efficient. Vas ligation subcutaneously is unsurgical. Vasectomy is ideally performed before any instrumentation of the patient. This is not often possible. If it were possible of attainment, epididymal involvement following prostatectomy would be a rarer occurrence.

The type of operation is next to evaluation and preparation the most important factor within our control. We have no intention of being controversial, but we cannot but help note the trend of the times, as portrayed by the literature, during the last decade, or as shown in the attitude of many urologists, who formerly advocated suprapubic prostatectomy exclusively. In deciding the type of operation, the pathology present should dominate the making of a choice. Suprapubic prostatectomy is indicated only in one type of obstruction, i. e., the large trilobular intravesical adenoma. The reason it is favored in this type of obstruction is because sphincter control is supposed to be more slowly regained if the perineal route is followed. Although we do not hesitate between the choice of possible death and partial incontinence, we unhesitatingly advocate the latter in cases where survival after suprapubic prostatectomy is questionable. If we had been trained by Young, or one of his pupils, we might reasonably be accused of partisanship, but the technique of perineal prostatectomy was finally undertaken by one of us in an effort to reduce the then appalling mortality of the suprapubic operation. The concession is now made by advocates of routine suprapubic prostatectomy that the urologist should be equally familiar with both techniques and the opinion has been expressed that one is not a thoroughly qualified urologist unless he is capable of doing all the surgery of the genito-urinary tract which a thorough knowledge of the perineum permits.

Reasons for choosing the perineal operation in the great majority of our cases, are listed below. We know that many do not have an accurate conception of the advantages of this route.

1. The field of operation has a natural immunity to infection. It is the point of most dependent drainage. Block anesthesia, without the additional use of infiltration or general anesthesia, may be used. A visual exposure of the field of operation is unavoidable. One does not rely on blind palpation. Solution of the vascular bed is reduced. The peritoneum is not in the field. The gland can be enucleated under vision with care and deliberation. There need be no

haste and as a consequence hemostasis is secured easily by suture and hemostatic bag. Hemostasis of oozing is present in a few hours; if the patient decides to remove the bag he can do it only one way and without injury to himself, except for momentary pain. The operative zone of the perineum is that of election in the patient with the thick pendulous abdomen, easily infected, slow to heal. Fibrous, fibro-adenomatous and carcinomatous prostates are more easily dissected. The bladder neck may be pulled down in the wound without appreciable traumatization and carefully inspected as to thoroughness of enucleation, thus tags, abberant nodules of adenomatous issue and sub-trigonal glands may be easily removed. The bladder suffers a minimum of immobilization and there is less disturbance of function because of its ability to completely collapse.

2. As a consequence of the natural advantages of the perineal region for operative technics, the patient derives the following benefits, viz:

a. Hemorrhage great enough to cause any appreciable variation in the pulse rate is practically unknown. If hemorrhage of secondary character, likewise extremely rare occurs, it can be quickly controlled by a reopening of wound and suture or packing of the bleeding area without the danger of shock.

b. Pelvic cellulitis and its complications is unknown. Goldstein and Abeshouse[5] in their recent admirable study could find no instance in the literature and Young was without knowledge of a single case following perineal prostatectomy.

c. Epididymitis is less common even without vasectomy.

d. There is an absence of shock, less than ten per cent. and as a result patients are invariably up in a chair in four to six days and often walking about the corridors by the end of a week.

e. The type of drainage (dependent) favors early closure of wound, a shorter drainage period, and absence of persistent fistulae.[6] There is minimum drainage through the wound after the twelfth to the fifteenth day and patients are dry meanwhile; dressings become wet only on attempts to urinate.

f. Urination returns more quickly. Control of urine occurs more rapidly and is more complete, despite general opinion to the contrary. Functional results are better, symptoms are absent, dependent, we believe on increased mobility of the bladder and diminished amount of scar tissue in the old prostatic bed as a result of cleaner dissection following enucleation.

g. Myocardial damage is reduced to a minimum because of the absence of shock and subsequent post-operative distention with its toxicity and the physical effect of distention by direct pressure on the diaphragm. Gastric dilatation is practically unknown,[7] with its associated tremendous alteration of the metabolism with myocardial damage and high mortality.

We do not elect the suprapubic route routinely for the following positive reasons:

1. The tissue exposure is greater, the operative field is more susceptible to infection and absorption and while the absorption may be slight, nevertheless, it may be quite sufficient to be more than can be borne by debilitated patients. There is no assurance that an anatomic dissection can be done. Actual prostatectomy is more often a blind procedure than a visual one with a few notable exceptions.[8] (The outstanding advocate of "suprapubic prostatectomy under vision" relies on the indwelling catheter for drainage in the majority of cases and thus has a virgin operative field. In secondary prostatectomy this procedure is well nigh impossible). The incision is at the highest point of the bladder, providing a type of cesspool drainage. In certain large patients with thick fat pendulous abdomens, the depth of the objective and the enucleation of the gland are obtained only by the exercise of extreme physical effort.

2. As a consequent of the natural disadvantages of the suprapubic route, the patient is subjected to the following unfavorable sequelae, viz:

a. Shock in a larger percentage of cases than is usual in surgical operations by other competent surgeons, with a high mortality attributed in part by some to hemorrhage. Often shock is present, but hemorrhage is great enough to prevent recovery. Where shock is not extreme, trauma with tearing of the peritoneum has a definite mortality of its own. Secondary distention of the bowel with resulting ileus and its host of unfavorable effects, or acute gastric dilatation with its high mortality occur. These conditions often have an irreparable effect on the

myocardium and leave not a few of the survivors in the category of cardiac invalids.

b. Hemorrhage is still a problem in suprapubic prostatectomy though it does not cause the mortality of former years, it is still a source of worry to the surgeon who follows this technic routinely. Loss of blood is greatly in excess of that occurring after perineal prostatectomy.

c. Infections are much more frequent. A larger vascular and lymphatic bed is opened up in the suprapubic space and forms a portal of entry for organisms, many of which have already manifested their pathogenicity for the urinary tract. Drainage of the pre and peri-vesical spaces necessarily is not free and must be by overflow. Pelvic cellulitis is more common after suprapubic prostatectomy than after any other operation in this region. The use of large packs for forty-eight hours by many of our surgeons and for longer periods by European surgeons, by their pressure hinder drainage of an often already infected upper urinary tract and initiate, or intensify, already existing local infections, causing a severe cystitis and occasionally even a gangrenous ulceration. Thrombophlebitis is far from a rare occurrence. Epididymitis is much more common than in perineal operations even when vasectomy is done. Other infectious complications are osteomyelitis, ostitis and peri-ostitis pubis. Beer reports seeing one or two such cases every year.

d. Uremic deaths are to be expected in this class of patients, even after long and careful preparation. The diagnosis is usually based on the oliguria or anuria, either of which may be due to circulatory disturbances alone. Shock from trauma and loss of blood are the probable causes of death in many so-called uremic deaths.[9]

e. Suprapubic fistulae are more common and persistent. Patients are far more uncomfortable with this type of drainage. A higher point of drainage than is usually made does not remedy this. We have always advocated high drainage in suprapubic operations on the bladder for the purpose of reducing the incidence of fistulae.

f. Ventral hernia is seen at some time by all who do any considerable number of suprapubic prostatectomies.

g. Functional results are not as satisfactory[10-11] undoubtedly due to immobilization of bladder preventing complete collapse after urination, inability to remove tags at the bladder neck after enucleation or excess of mucous membrane ruptured at enucleation and left floating in front of urethra. Recurrence though relatively rare is more common after suprapubic prostatectomy.[12]

h. As a result of the post-operative storm, which many of these patients pass through, as well as the smaller percentage of functional results, as evidenced by recurrence of symptoms in whole or in part, many of these patients become "front porch" invalids.

i. There is a definite disadvantage because of the numerous complications following suprapubic prostatectomy, in being unable to state, within reasonable limits, the period of hospitalization or probable period of convalescence. This is an important phase from an economic standpoint.

Because of the difficulty of obtaining comparable statistics of the two methods of prostatectomy, it is often difficult to discover exactly what really is the mortality of suprapubic prostatectomy. Our method has been stated previously and is essentially that of Cecil. Keyes,[13] in a recent paper, classified a series of suprapubic prostatectomies in a similar manner. From his paper and the discussion that followed, we are able to form some conclusion as to the relative mortalities attending the two procedures. A series reported by Cecil in 1921[14] is used for this purpose.

Keyes reports that of one hundred seventy-five patients presenting themselves for relief of prostatic disease, at a city hospital, and operated upon by eighteen different surgeons, 85, or 49 per cent., did not leave the hospital alive. Twelve of 26 not operated upon died. Of 98 patients drained suprapubically, 33 died. Of 110 prostatectomized, 40 died. In other hospitals of similar character, 45% died before they left. It must be remembered that these patients were in charity hospitals. In a church hospital 47 per cent. of those who entered for treatment of prostatism failed to leave alive. Many of these were ward patients. But, being charity or semi-charity patients should not alone make such a vast difference between the mortality of the two groups.

Of Keyes' own cases, 17 per cent. failed to leave alive.

Cecil reports a series of 103 cases, 100 of whom were operated upon, two of whom died under preliminary treatment and one who refused operation. The treatment is given in detail, as well as that of the patient refusing operation. The direct mortality based upon complete closure of the wound and restoration of function, was two per cent. The two deaths occurred in men, both of whom were hemiplegics, both eighty years or more old and both died on the fourteenth day of pneumonia. Of those operated upon, four were in marked stupor, four were hemiplegics, two were wildly irrational, one was having convulsions and two were diabetics. There were eleven cases of malignancy in the series.

Baker[15] lists three considerations entering into the choice of operation: 1. ease of operation, 2. functional results, 3. mortality. We believe the order should be reversed. He says further that a choice based on ease and simplicity of operation, regardless of the other two factors, is unsurgical, but to consider the saving of life at the expense of function, or some innocuous sequel, is worthy of consideration. We feel that the saving of life is more than worthy of consideration; it is the obligation of every surgeon.

When such figures for suprapubic prostatectomy are available, it is not difficult to understand why functional results are apparently better after the suprapubic operation. There are far too many who fail to survive and reach the test of function. We know that the "prospects of the prostatic" are much better after the perineal operation.

The mortality of suprapubic prostatectomy may be lowered somewhat by the use of prevesical section. In the few instances we have seen it employed, there was no great difference in the final result and in one case the peritoneum was torn when the incision was extended. Though heralded as a great advance in suprapubic surgery, its proponents will, we hope, have more success than some of their followers.

Thus those who choose the perineal operation for the majority of their patients do so with "passion" and the results are all that are needed for their justification. In the last analysis the "perineal peril" is such only to the surgeon who is unwilling to devote himself to the task of learning a "brilliant and complex way of doing a relatively simple thing" with a resultant mortality that is comparable to any in the field of major surgery.

In our experience the innocuous sequelae mentioned by Baker occurred in two of several hundred prostatectomies. In one instance the rectum was opened in an attempt to dissect it free of a malignant prostate. A retreat was promptly made and the gland removed two weeks later. In the second instance a suture used to secure the levator muscles was inadvertently passed through the right lateral quadrant of the rectum and tied. The effect was noted the next day. This necessitated an additional stay in the hospital, the patient returning home sixty-eight days after admission, without the necessity of a secondary operation.

Before passing from this phase of the discussion, one can do no better than to again quote Baker who says: "There is no doubt that the epoch making work of Young stands as an imposing monument to mark the advent of the new and successful era in prostatic surgery." Truly these are significant words and well worthy of consideration.

There can be no doubt that general anesthesia has contributed to the mortality of the prostatic, although Cecil reports a series of over two hundred prostatectomies under general anesthesia with a mortality as low, or lower than one might obtain with block and infiltration anesthesia. This is a tribute to his operative skill and to the ability of his anesthetist. General anesthesia, when administered by the same anesthetist, gives good, or at least consistent results. If one has to accept the services of several anesthetists over a period of time, it is difficult to decide just how much of the post-operative morbidity and mortality are due to the failure of the patient to react favorably to surgical procedures and how much is due to the variable ability of the anesthetists. To the urological surgeon, working in more than one hospital, this is a problem which can never be satisfactorily solved if he relies on general anesthesia.

The development of ethylene places an anesthesia in our hands which is far more satisfactory than other forms of general narcosis. With its administration, induction is rapid and easy, without struggling and without sense of suffoca-

tion. With anesthesia respirations are regular, somewhat shallow, never grunting or forced. The regular natural respiration is one of the advantages of ethylene anesthesia. Recovery is rapid and occurs within a few minutes after the anesthetic is stopped; the patient is awake and mentally alert. Nauseau occurs, but it is not lasting, except in rare instances. Relaxation is more complete than with nitrous oxide and is secured without cyanosis. The color of the skin is more normal than with any other general anesthetic now used. During ethylene anesthesia there is a normal, or even exaggerated peristalsis of the bowel, indicating that it does not paralyze or seriously depress the normal neuromuscular apparatus of the bowel responsible for regular and coordinated propagation of the peristaltic waves. Ether anesthesia, profound or prolonged, causes complete paralysis of the neuromuscular apparatus of the bowel and when the bowel recovers, activity is not coordinated with the result that gas is incarcerated in the local and stationary constrictions and is put under tension. Ethylene is less toxic to nervous tissue and is furthermore more rapidly eliminated.

There is an absence of sweating. After an anesthesia of forty-five to sixty minutes the skin is still dry and this prevents chilling. Additionally, there is the advantage of no loss of body fluids.

Increased salivation, or secretion of mucus does not occur, indicating a lack of respiratory irritation. This is important in patients with pulmonary complications.

The margin of anesthesia is narrow; patients pass quickly from the anesthetic to the waking stage and do not remain stuporous and incoherent as with other forms of general anesthesia. With ethylene anesthesia more oozing occurs, but experience shows that this is a negligible feature. For urological surgery it is the general anesthesia of choice:

Because the interim between anesthesia and waking is short, patients are able to take fluids within a few hours by mouth. If fluids are taken sooner, vomiting may occur, but normally such washing out of the stomach is followed by no further nausea or vomiting and fluids may be taken with impunity. There is not the distension, such as occurs with ether anesthesia.

Because the respiration is regular and natural and not stertorous and heavy as with nitrous oxide, which puts the latter, we believe, in the class of unsafe anesthetics when patients with myocardial and vascular disease are anesthetized.

Because there is less loss of body heat, due to evaporation of skin secretions, less loss of tissue fluids and consequently a reduction in causes predisposing to pneumonia and no augmentation of shock symptoms.

Routinely, however, regional anesthesia, is favored, using Caudal and para-sacral block, with a preliminary medication of sodium barbital gr. X. one and one-half hours before operation and morphine-sulphate gr. one-fourth, one hour before operation. With these two drugs it is hoped to combat any idiosyncrasy for novocaine and in several instances we are convinced that an embarrassing situation had been averted by their use.

The advantage of regional anesthesia lies principally in the quick recovery of sensibility in the anesthetized areas, and the lack of general depression that follows ether. It is only fair to say that rapid reduction in blood pressure, faintness and profuse diaphoresis with a reduction of skin temperature, sometimes occurs. Occasionally, the diaphoresis has persisted for as long as one to two hours and was only controlled by the use of atropine. However, in the great majority of cases the ability to take fluids, such as tea, coffee, etc., and the cooperation of the patient in moving around in bed, the lack of abdominal distention, of shock and the necessity of hurrying through the operative procedure, with consequent time for care and deliberation and the securing of hemostasis, is a distinct advantage. It also has the advantage of leaving one independent of an anesthetist if such a situation should arise.

The post-operative care after the first twenty-four hours does not require in itself any great skill and is not so exacting as after suprapubic prostatectomy with its many complications. The Davis bag is removed at this time, the sutures at five to seven days. Dressings are done by the nurse as occasion requires. No irrigations or indwelling catheter are indicated, we believing that this procedure is responsible for infection and secondary hemorrhage. Occasionally, in selected cases, a sound is passed between the eighth and tenth day. Enemas are interdicted

because of the possibility of embolism and also with the idea that possible puncture of the rectum may be avoided. One of us also forbids the use of cathartics until after the tenth day, relying on mineral oil and mild laxatives to produce defecation. Subcutaneous injections of fluid, as a rule, should not exceed 3000 to 4000 cc a day[16] with certain exceptions. We prefer using a five per cent. solution of glucose, Ringer's or Hartmann's solution rather than normal saline. The reasons for this are quite obvious in the occasional cases where fluids by mouth are not practical or are consistently refused, and quantities must be given subcutaneously or intravenously.

Other medication consists of digifoline one ampule every four hours for from twenty-four to forty-eight hours and morphine sulphate, grain one-fourth, P. R. N. More than one dose of morphine is rarely needed.

Before closing it is not amiss to mention the use of direct blood transfusion for the treatment of hemorrhage or severe infection. Although our own experience has been limited, it has been eminently satisfactory and its use urged more generally in the treatment of these two conditions. Transfusion is a decisive factor in reducing the mortality from hemorrhage.

We have considered the factors which produce a lower mortality and morbidity by eliminating the occurrence of:

1. Renal failure—by clinical and laboratory evaluation of patient and preparation for operation by the usual methods.

2. Shock and its associated phenomena by choice of operation and regional anesthesia.

3. Hemorrhage—by open visual hemostasis and by the Davis bag—and the effects of hemorrhage by direct transfusion of blood.

4. Infection, as far as possible, by preliminary vasectomy to avoid epididymitis and the use of an operative field with a high degree of immunity, and which also provides the only rational drainage, i. e., through the most dependent portion of the wound.

5. Complications of general anesthesia by use of block anesthesia and ethylene.

6. Post-operative sequelae by the giving of sufficient fluids by mouth, intravenously, subcutaneously, using pre-operative study data as basis for quantity tolerated, as well as blood pressure readings over first three post-operative days, unless further determinations appear necessary. Glucose, Ringer's or Hartmann's solutions are preferable to normal saline. The latter tends to disturb the normal mineral balance of the blood stream and where given solely and in quantities, tends to produce salt retention.

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RAT-BITE FEVER TRANSMITTED BY A CAT-BITE

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This is a case which we feel is of interest to American medicine and especially so to the industrial phase of it. It is of interest because of its rarity in the United States, as well as in the unique manner in which it was transmitted.

The case is one of a white male, aged 43 years, by occupation a piano mover, who stated that he had always enjoyed excellent health.

The patient stated that on September 26, 1930, while at work in moving a family, he was carry-

ing a basket containing cats when one of them bit him on the right hand in the web between the thumb and index finger.

The wound was apparently superficial but was reported by the patient to his foreman, who in turn referred him to a physician. Two days later the hand became painful and swollen, gradually extending up the forearm. The patient reported to a second physician who advised him to use hot applications at home.

On the tenth day following the bite the patient was hospitalized and was treated by incision and drainage at the site of the original injury. This was followed by continuous fomentations.

The patient stated that at this time he noticed some purplish lesions on the right arm and body and that these were also observed by a nurse.

There was two weeks hospitalization with gradual improvement of the hand and arm. About the time of discharge he developed a cough, productive of considerable mucus, which was accompanied by pain or soreness between the shoulder blades, anterior chest, the abdomen and lower extremities.

On Dec. 23, 1930, patient entered our service at St. Luke's Hospital, with the following complaints:

1. Loss of thirty pounds.
2. Cough.
3. General weakness.
4. Shortness of breath on exertion.
5. Periodic attacks of chills, followed by fever.
6. Soreness or pain in chest, thighs and legs.

The doctor who referred the case felt that the severe infection of the hand had so lowered the patient's general resistance that pulmonary tuberculosis had developed, thus raising the question of an aggravation of a pulmonary condition by the injury.

Past History: Measles, diphtheria and chickenpox in infancy. Appendicitis in 1924. Venereal infection denied. Patient married 14 years. Wife, L. & W. One child, L. & W. No miscarriages. Family history negative. Patient formerly a trapper and guide in northern Wisconsin.

Physical Examination on date of entrance, Dec. 23, 1930, revealed a white male, aged about 43 years, yellowish tinge to skin and who appeared acutely ill. Temp. 102.8; Pulse 106; Resp. 22.

Head—Hair and scalp normal; eyes, pupils, equal, regular and react to L. & A.; nose, ears and mouth negative.

Chest—Equal good expansion and symmetrical. Impaired resonance on the right side with roughened breath sounds. No rales. Areas of tenderness between the scapulae.

Heart—Borders within normal limits. No murmur detected.

Abdomen—No tenderness or rigidity. Suggestion of palpable spleen. Old mid-line scar present.

Genitalia—Negative.

Extremities—Purple-blue drainage scar in web between thumb and index finger of right hand, and another on medial aspect of the fore arm. There was a slight pitting, on pressure, over both ankles.

Reflexes—None pathological.

Laboratory Findings—

Blood—R. B. C.—3,030,000. Hb. 50.
W. B. C.—19,000 and varied from 13,000 to 22,000.
Differential—Polys 91
Eosinophils 1
Lymphocytes 7
Band shaped 1
Picture of polychromataphilia.

Urine—Negative.

Blood Wassermann—Kahn 50 per cent. positive.

Blood Cultures—Negative on several occasions.

Dr. George Scuphan of the Medical Staff was also greatly interested in this case and at the time of paroxysms searched blood smears for the organism.

Blood obtained during temp. 102.4 on Jan. 30, 1931, and examined under dark field, negative for spirochetes. Guinea pig inoculated, one organism found and reported as a spirillum.

Following the Kahn 50 per cent. positive Wassermann, K. I. and mercurial rubs were instituted. This probably accounts for our inability to isolate more than the one organism classed as a spirillum. Dr. Scuphan felt that the mercury and K. I. had undoubtedly been sufficient to obscure the organisms in the blood stream but insufficient to free the patient of the paroxysms.

Sputum—Negative for acid fast bacilli, bacillus abortus or melitensis on repeated examinations.

Stool Examination—Negative for blood.

X-ray of chest, Dec. 23, 1930—Upper right chest slightly retracted. No free fluid. Evidence of bronchiectesis involving particularly the lower portions of the right lung. Small circular area of increased density in the first interspace trunk on the right side near the periphery.

X-ray, Jan. 20, 1931 (flat abdomen) showed a rather dense shadow extending downward from the lower pole of left kidney which looked suspicious of a sub-diaphragmatic abscess.

During hospitalization, every 10 to 14 days, patient suffered increased soreness in thighs, legs and arms; general malaise, followed by chills which in turn were followed by a temperature rise to 102 to 104 degrees. These attacks would usually subside after a period of 48 hours. The patient would then feel quite comfortable although weak and would be about the ward until a subsequent attack.

(See Sheet 5-A, Fig. I.)

The spirillum is of the family for which mercury and the arsphenamines are specific. Through a process of elimination and with the finding of the one spirillum and the slightly positive blood Wassermann we felt this to be definitely a case of rat-bite fever. Blood Wassermanns are usually slightly positive in

these cases and for this reason syphilis is often erroneously diagnosed. On the above facts, specific treatment was administered. This consisted of three doses of Neoarsphenamin three days apart and in graduated doses as 0.15 gm. 1st dose, 0.3 gm. 2nd dose and 0.3 gm. 3rd dose. Following this treatment the patient never suffered any further attacks of muscle soreness, chills or rise in temperature.

Early in April, 1931, patient had regained the lost weight and returned to work. Patient reported some stiffness and soreness of the arm, thigh and leg muscles. Blood Wassermann uncomplimentary.

In June, 1931, the patient reported by letter that he was in good health and had suffered no indication of a recurrence. Recurrence of the disease often occurs, coming on in some instances once or twice a year and in one case has been reported as recurring fifteen years after the initial lesion or rat bite.

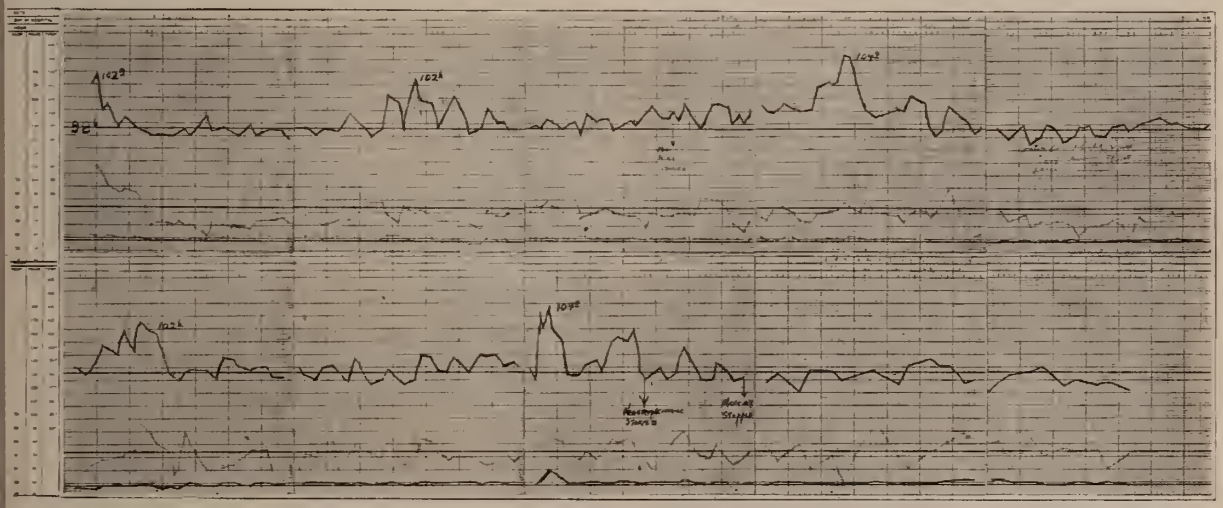


Fig. 1. Temperature, pulse and respiration chart while in the hospital. Top graph is of the temperature; middle graph is of the pulse, and bottom graph is of the respirations. The parallel longitudinal heavy lines represent days. Sixty-eight (68) days or the entire hospitalization is shown.

As this patient gave no history of ever having been bitten by a rat, we naturally concluded that the organism had been transmitted by the cat. Reference to cat-bites and even squirrel bites as a source of rat-bite fever is found in the literature, but we have been unable to find a case specifically reported as due to cat-bite.

Rat-bite fever must be differentiated from other recurrent fevers, namely, malaria, relapsing fevers, trench fever, pyogenic infections and syphilis. The differential diagnosis is usually dependent upon the laboratory as the blood picture in malaria; on the specific organisms in syphilis, relapsing fever and trench fever.

The mode by which the individual has become infected is also important from a diagnostic point of view—such as the mosquito in malaria; lice or ticks in relapsing fever and lice in trench fever.

This condition was perhaps recognized earliest in Japan. A characteristic relapsing fever due to the bite of a rat has been recognized in China and Japan for several centuries, although the specific organism was not known. It has also been recognized in other countries, as Australia, but only of late years in the United States. It is defined as an infectious disease, following a rat bite and characterized by recurrent paroxysms of chills, fever, muscular pain and erythema. It may be transmitted by either house or field rats and so far as we have searched the literature, transmission by a cat-bite is exceedingly rare.

Etiology has been ascribed to various organisms; namely, streptothrix by Tileston, Schottmuller and Blake; a sporozoon by Ogata, and a diplococcus by Douglas. The greatest amount of research has undoubtedly been done by the Japanese and in 1915, Futaki described a spirochete—Leptospira morsus muria—found in the swollen lymph glands of a rat-bite fever patient. Numerous Japanese have found the spirochete in the blood, skin, lymph nodes, kidneys and adrenals of patients suffering from rat-bite fever. In 1929, in the *Indian Medical Gazette,* Parmanand reported the spirochete morsus muris—spirilum minus as the etiological factor. In the infected rats the organism is found in the blood during the first few weeks. Following this it is

found in the connective tissue, especially of the bridge of the nose, lips and tongue. A break in these tissues is the source from which comes the innoculating organism. The organisms are not secreted in the saliva. The organism has been isolated from the blood of rats captured in the house of the victim of this disease.

Prognosis. The outlook is favorable. In Japan a mortality of 10 per cent. is given. There have been a few necropsies conducted in human cases and they have shown degenerative changes in the kidneys and liver. The tissue at the site of the wound is lymphoid and connective tissue hyperplasis, with hyalin degeneration and thickening of the blood vessels.

Conclusions:

1. Rat-bite fever is probably overlooked more frequently than we realize.
2. The mortal enemy of the rat, the house cat, may act as the medium for the transmission of the etiological factor of rat-bite fever.
3. There is a specific treatment—Neoarsphenamin—in small divided doses.
4. If in the course of employment an individual is bitten by a rat or cat and later develops this peculiar type of relapsing fever, the case at once develops a medico-legal aspect. The question of employee's compensation for an accident must be met.

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X-RAY FINDINGS OF PNEUMONOCONIOSIS*

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This subject was chosen for this paper as it was believed that the physicians and radiologists, particularly those connnected with industrial operations, should give it more attention than it has had in the past.

Dust diseases of the lungs are essentially, industrial hazards. For the proper interpretation of radiographic findings in dust diseases of the lungs, the causative agents, the manner in which they are produced and the pathology, should be thoroughly understood.

All dust diseases are grouped under the general term pneumonoconiosis. The various classifications such as silicosis, anthracosis, siderosis, etc., are used to designate the pathology caused by specific dusts, such as silica, coal, iron and so on.

Any dust may cause lung pathology if breathed in sufficiently high concentrations, and over a long enough period of time.

In order to determine if the amount of dust in the air in any given location is capable of producing lung pathology, the air must be sampled and the weight of the dust, number of particles, and their size must be obtained. It is interesting to note that it is only the particles of dust 10 microns (1/2500 of an inch) and less in diameter, which do the actual damage, as the larger particles are caught in the upper respiratory passages and immediately expelled with excretions.

The British have set a standard of purity for air at 1.5 (1 mg—1/65 gr.) milligrams by weight and 20 million particles of fine dust per cubic meter. Dr. Haldane of England, calculated that on a dusty day, a person walking in the streets would breathe 1 cubic foot of air per minute and with it 1¾ million particles of dust. In many industrial operations, the amount of dust greatly exceeds the above standard of purity. America has no standard of purity, but it should certainly be less than the above.

There are three theories as to the manner in which the dust injures the lung tissue. First, by mechanical cutting and scratching of the tissues by the sharp edges of the dust particles. Second, by chemical reaction produced by the dust. Third, by the cells taking up so large a number of particles that they are hindered in performing their physiological functions. In all probability, all three theories act together in causing the disease, rather than any one separately.

Dust diseases of the lungs are produced slowly. They have occurred in two years' time under certain conditions and may occur at any time thereafter.

The first step in the production of dust pathology in the lungs is a larger quantity of dust than the nose and upper respiratory apparatus

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can filter out. The second step is a larger quantity which has escaped past the first defenses than can be taken care of by phagocytosis; in other words, when the excretion of dust particles becomes less than the intake.

The dust which gains entrance into the alveoli sacs is taken up by phagocytic cells; these cells are said by some to be desquamated epithelial cells lining the sacs, and by others, to be endothelial or large monoleucocytes.

These cells, which have become laden with dust particles, enter the lymph spaces around the alveoli sacs and the lymph spaces in the inter-lobular septa. From the lymph spaces, these cells are carried along the lymph channels which follow the bronchi and blood vessels. The cells are first arrested in the minute lymph nodes along the course of the lymph channels and some of them are finally deposited in the lymph glands at the root of the lungs. The lymph spaces and lymph channels are often blocked by collections of dust cells and wherever a blocking takes place or whenever a lymph node becomes laden with these cells, the final result is disintegration and replacement by fibrous tissue.

The above process may continue until the normal lung tissue is largely replaced by fibrous tissue. In the far advanced condition, the lung tissue feels like gristle and when cut through it imparts a gritty sensation to the knife. It has been determined that the total weight of dust (silica) obtained from diseased lungs varied from 2.8 to 9.6 grams, while that obtained from normal lung was 0.5 grams.

Dust pathology of the lungs is divided arbitrarily into first, second and third stages according to the amount of fibrosis present. The radiographic interpretations are similarly divided. It is well to state here that the radiograph is the most practical, and in many instances, the only, method of making a diagnosis.

As silicosis is the most prominent and most commonly found of the dust diseases, its radiographic findings will be described. In the first stage the hilum shadows show a slight but definite increase, due to enlargement of the bronchial glands and increase of the fibrous tissue. There is a generalized peri-bronchial thickening, more or less evenly distributed throughout both lungs. The increase in the shadows of the bronchial trees is due to the increase in the fibrous tissue around the ramifications of the bronchial trees and their accompanying blood vessels. It is of special significance to note that the fibrosis is very nearly symmetrical in both lungs and is distributed more or less evenly throughout all lobes of each lung. Occasionally it may be more pronounced in one, usually the right lung.

In the second stage the hilum shadows are still more increased and the density of the bronchial tree is greater and more numerous branchings are seen. In addition there are seen areas of mottling with small round discreet densities resembling tuberculous deposits, however, lacking the irregular and less dense surrounding inflammatory zone of the tubercle infection. As in the first stage, the distribution is more or less equal throughout all parts of both lungs and shows no preference for the apices.

In the third stage the hilum shadows are very markedly increased and the number of round discreet deposits is so much greater that the radiograph presents a snow-storm appearance. In this stage, in many instances, the round deposits have become confluent and present large areas of consolidation.

In the first stage, the heart presents no particularly abnormal position, but as the fibrosis increases, the heart is pulled to the right side and often in the third stage it occupies a vertical position in the thorax.

In no stage of dust diseases of the lungs does cavitation occur as in tuberculosis. However, in the second and third stages, particularly in the third, tuberculosis easily becomes superimposed on the original condition.

DISCUSSION

Dr. L. R. Sante, St. Louis: I think that Dr. Flinn's paper is a very live subject at this time on account of industrial liability. This paper has given us some exact criteria upon which to determine whether or not dust in the atmosphere contains particles of sufficient size to be injurious to the workmen, a very important point.

In silicosis there is certainly a very drastic change in the characteristic appearance from stage to stage, and I should like to ask Dr. Flinn just what he considers the pathologic process that takes place in the change from the first to the second stage. I should also like to ask him, in his conception of the disease, how these dust particles are conveyed into the lymph glands and whether or not there is to be expected a calcareous reaction in the lymph glands similar to that seen in tuberculosis from dust particles alone.

With reference to the subsequent occurrence of tu-

berculosis in individuals who have had advanced stages of silicosis, I should like to ask Dr. Flinn whether or not the men working in hard coal mines were any more inclined to develop tuberculosis than the individuals working under the same circumstances without dust.

As a point of differentiation between pure silicosis and associated tuberculosis, does silicosis pure and simple produce cavitation in the lung? If it does not, then there may be a point at least in determining the advanced state of tuberculosis in connection with silicosis.

I think another thing which we must be careful of is the reliance upon physical findings as a basis for the diagnosis of associated tuberculosis; this I think is very hazardous. I think the physical findings in the case of an individual whose lungs are so filled with silicosis must present certain manifestations that make the detection of associated tuberculosis hazardous.

I would like to cite one instance which I came across in connection with silicosis. A number of years ago we had several sand blasters doing some work in our hospital. While they were working, the dust was so thick you could not see an electric light across the room, yet they worked in this dust with nothing more than a flannel hood on their heads. These masks were constructed with two holes for the eyes and extended down over the shoulders. The only protection from dust which they afforded was the flannel which would catch the dust as they breathed from beneath the edge of the mask. I thought that this was a good chance to get some films, so I had them come down and I examined them. There was no evidence of silicosis in any of them, and I was very much surprised. One man laughed and said, "We are all right." They attributed their exemption from involvement to the fact that they all chewed tobacco freely while on the job and expectorated profusely. I found that it was traditional among this group of workers that the men who chewed tobacco were relatively free from dust disease.

Dr. Roswell T. Pettit, Ottawa: I have had quite extensive experience, I believe, for Illinois, with this subject of pneumonoconiosis of a particular type. At Ottawa, where I live, we have probably the most important silica mines of America. We mine more silica than any other places in the United States. The National Plate Glass Company, a subsidiary company of the Fisher Body Company, have combined all their plate glass workings there. These companies who mine this silica have been in business for something like twenty-five years. We have been getting reports of these men dying time and again, who were apparently robust men, who developed a shortness of breath, and the most of them were considered as being cases of tuberculosis.

I have found a very high percentage of silicosis among these workers—I have examined over 200 cases, and I have made a study as to the length of time it takes before the development of the disease, its progress, and its late stages. The thing that I found in the examination of these 200 cases is practically the same as reported by Dr. Flinn.

Do not think that because we have silica mines located at Ottawa that that is the only place in the states of Illinois or Missouri that you are going to meet this condition, because you are going to find it any place where they do metal casting and where they finish these metal castings by the use of sand-blasting.

I know of several cases where it was considered that the individuals had pulmonary tuberculosis and that they really had silicosis. I think, when you are making a diagnosis of tuberculosis in a laboring man, you should always inquire as to his occupation.

Dr. Edwin C. Ernst, St. Louis: I should like to briefly describe an unusual case, a man who had been working in a lead mine for many years, and who later presented abnormal lung findings—occasionally expectorating calcified glands. The lower right base of the lung indicated a marked increase in density, and other x-ray findings suggesting an abscess of the lower right lobe.

This man worked in the environments of fine silica dust in a lead mine. I was asked to have made a complete chemical examination of these expectorated glands, and there was noted a very small percentage of silica coating these supposed calcifications. The abscess formation visualized on the x-ray film may or may not have had anything directly to do with this man's vocation in the mines. I merely present these findings since it is a rather unusual problem in my experience. In this case there were complications, namely: lung abscess, apparently a non-tubercular infection, and under these conditions calcified glands could easily become detached. Of course they could hardly be formed in the lung as a result of his type of work and environments. They were distributed throughout the entire lung and peripheral regions, as well as near the hilus and the peribronchial areas, and in the immediate proximity of the abscess formations. Coincidental, nevertheless, a serious problem for the industries.

Dr. Harry A. Olin, Chicago: I should like to ask Dr. Flinn if he has made a special study in reference to the various types of substances that produce any degree of fibrosis. In other words, is there more fibrosis produced in a granite worker than in a man working in a soft coal mine where there is mostly silica or fine coal dust?

Dr. F. Flinn, Decatur: The lymphatic system, as we know, surrounds all of the blood vessels and air sacs, and follows up the bronchi along with the blood vessels to the glands. Of course when these cells, whatever their type, become ladened with dust, they are usually first deposited in the glands. A collection of cells may become arrested in the lymph spaces, as the glands and lymph spaces become blocked, then the fibrosis takes place. If the cells become stationary within a lymph space, at that point a nodule takes place, because those cells die and are replaced by fibrous tissue. Of course when the glands are blocked in the hilus, they tend to dam back the lymph flow and block the stream, then fibrosis takes place more frequently.

Dr. Case brought up the question of calcification within the hilus shadows. I believe the true discrete deposits, in the case he cites, are true calcified glands,

possibly as the result of tuberculosis. Inhalation of dust produces more general fibrosis rather than calcified shadows within the hilus. Miners or any persons inhaling dust are more prone to develop tuberculosis than those who are in a pure atmosphere. Inhalation of dust is not a preventive of tuberculosis. We have any number of statistics to prove that. The people who breathe dust or have any form of pneumonoconiosis are more prone to respiratory infections than those without. The death rate from respiratory diseases is much higher than, for instance, that for the clerks in the stores or the farmers taken as a class for comparison.

There is no cavitation in true silicosis or pneumonoconiosis. We may get a deceptive appearance where the bronchi or some areas have become fibrotic and form almost a complete circle, but on careful study we can usually differentiate that. Silicosis does not produce cavitation.

As to the physical findings in pneumonoconiosis there are very few compared to the picture you see on the x-ray, even in the second stage, or a late second stage. You may put the stethoscope on that man's chest and get very, very few physical findings. The breast sounds may be a little more harsh, you may percuss that chest and due to the emphysema which has taken place in the alveoli you may get a sense of loss of elasticity to your percussant finger, but you could not make a diagnosis without x-ray findings; you can not do it with physical examination. Respirators of different types have been tried, but they are a hindrance rather than a help, because they soon become plugged and you can not use them. In the first place, they do not filter out the particles which cause pathology. The larger particles are caught through the nose, and it is the particles of dust 10 microns and less in diameter which do the actual damage.

Jarvis was one of the first investigators in this country to make an investigation in the granite district around Barre, Vermont. The second investigation took place in Joplin, Missouri, in the zinc and lead mines. The first films were read by Dr. Childs. In examinations of over 2,000 men in the Joplin district, no history was obtained that tobacco chewing was a preventive of silicosis, although a large percentage of miners chew tobacco.

Regarding Dr. Olin's question as to the type of dust, I believe that any dust if breathed in a sufficiently high concentration over a sufficiently long period of time will produce fibrosis in the lungs. Of course your silicotic dust is the most harmful. It will produce changes in the lungs quicker. The earliest definite change is in two years, but I know of some cases in the coal mines which developed into definite second stage in twenty-some years. If the dust is mild or harmless, as coal dust is supposed to be, it will take a longer period of time and the concentration has to be high. In many of the coal mines they do not use water on the cutter bar, and the machine man stands within a fog of dust so that you can hardly see his face eight or ten feet away, breathing a high concentration of supposedly harmless dust. But now they are backing up on that question, because it produces a generalized fibrosis. Silicates will do the same thing. The Bureau of Mines injected silicates, and they found that they produced adhesions very quickly in the peritoneal cavity.

THE USE OF THYMOPHYSIN IN LABOR*

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In 1925 at a meeting of the German Gynecological Society, Dr. Nicholas Temesvary read a brief, preliminary report of some experimental work done with thymus and pituitary extracts. In 1929 at the meeting of the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons, he read a paper entitled, "A Rapid Nonsurgical Procedure for Aiding Childbirth."

Temesvary made several experiments with the extracts of various glands on isolated uterine segments and learned that thymus extract alone, in .relatively large doses, slightly increased uterine contractions and that pituitary extract accentuated this reaction. He likewise observed that the action of pituitary extract with thymus was prolonged and so modified that the contractions became more rhythmical, than with the former alone.

This action of pituitary extract on uterine muscle is specific, while that of thymus is nonspecific. Müller and Del Campo have shown that when muscular fatigue is increased by electrical stimulation, thymus inhibits fatigue and increases muscular contraction under prolonged stimulation provided the muscle is not too greatly fatigued before thymus is used. This action in all probability explains its modifying effect on the action of pituitary extract on uterine muscle.

With these facts as a basis Temesvary used a combination of thymus and pituitary, called it thymophysin, and watched its effect in 1000 cases. He then reported that the duration of labor in these cases was from 2 to 3 hours in multipara and 3 to 5 hours in primipara. Thymophysin was used in pathological cases when rapid delivery was desirable, such as pre-

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mature or artificial rupture of the membranes, primary inertia, in elderly primipara, cases of slightly contracted pelves, marginal placenta praevias and toxemias. The contraindications were markedly contracted pelves, malposition of the fetus, malformations of the fetus, malformations of maternal organs, cardiac and renal disease.

The German literature is replete with reports of the use of this preparation while there are only a few American reports. Haynes, in 1928, reported 50 cases, and Jarcho 18 in January, 1930.

Haynes' conclusions after the use of thymophysin in 50 cases were that the preparation was effective in inertia in the first stage, causing strong and continued labor pains which led, in a comparatively short time, to spontaneous delivery or surgical intervention, that in the second and third stages there was less regularity, and that it was harmless to both mother and babe.

Later he reported 500 cases divided into four groups. Group I—341 cases—given for primary inertia, resulted in rapid complete spontaneous labor in 216 cases, rapid complete dilatation, rendering surgical interference possible in 98 cases and complete failure in 27 cases. Group II—88 cases—given for secondary inertia, resulted in early delivery in 64 cases, aided delivery in 12, failed in 12. Group III—35 cases —given for the induction of labor in toxic cases, resulted in early delivery in 21 cases, and when combined with other agents, successful results were obtained in 7 cases and 7 were complete failures. Group IV—41 cases—given for the induction of labor in non-toxic cases, resulted in failure in 10 cases. In the remaining 31 cases, thymophysin plus oil, quinine and enematas was productive of desired result. Hence it appears that thymophysin alone is of no value in non-toxic cases. Haynes further stated that in all types of cases from 3 to 12 minutes following the injection of the drug, there occurred a decided change in the intensity, regularity and length of contractions. Many were delivered in 30 minutes and the majority within the hour, the average length of labor being 17½ hours.

Jarcho, after using thymophysin in the first and second stages of labor, came to the conclusion that the preparation aided dilatation and shortened the first stage, aided expulsion when labor suddenly ceased with the presenting part in the mid-pelvis and that the effects persisted into the third stage. Also that there was no ill effect on the mother or child, no difference in the maternal blood pressure or the red and white counts compared to those in babies delivered without thymophysin.

Schoeneck states that cervical damage is no greater with thymophysin than without it, that in 4 of their cases the action resembled unmodified pituitrin, that post partum hemorrhage occurred in 2 cases, that there were 2 cases of prolapsed cord and recommended, therefore, that unless preparations to meet emergencies such as ruptured uterus, cervical injury etc., are available that thymophysin be not used.

Rucker, in order to determine the result of injecting thymophysin upon the uterus in situ or to learn just what was happening to the uterine musculature following such injection, attached the stem of a Vorhees' bag within the uterus to a mercury manometer and was thus able to record intrauterine pressure changes.

Four cases were thus studied. One case at term showed no change in type of uterine contractions or tone of the uterus after ½ cc. of the drug. One case showed increased frequency, a decreased force of contractions and an increase in the tone of the uterus after a 1 cc. dose. In two other cases at term similar but more marked changes after 1 cc. occurred. He emphasized the fact that where response occurred it did so within 2 or 3 minutes and produced an incomplete tetanus, lasting from sixteen to twenty-four minutes. Such contractions it can plainly be seen are dangerous to mother and child since where the uterus does not relax between contractions there is interference with the circulation both in the wall of the uterus and placenta and hence danger of rupture of the uterus and fetal asphyxia.

In our series of 40 cases we followed the Temesvary original technique and started with 1 cc. later reducing the dose to .5 cc. and still later to 3 and 4 minims. At no time after the first 5 cases did we give more than the suggested dose of 1 cc. It seems best to begin with .5 cc. repeating if necessary since all uteri do not respond alike and this smaller dose prevents the

sudden initial uterine contractions noted with the larger dose.

Early in our experience we gave it in the first stage but always with reservations and trepidation since a generally contracted pelvis is the rule among the women in our clinic. Later we discontinued the practice of first stage administration, giving it only in the second, when the pains became weak, ineffectual, and irregular and when there was complete dilatation.

In the main our results agree with previous observations as to the immediate response, of the change in contraction rate and intensity. On the other hand thymophysin appeared to increase the dangers of such complications as post partum hemorrhage, cervical lacerations and arrested shoulders and cord prolapse. Again at times the contractions were so severe and violent as to be almost tetanic.

Of the 40 cases studied 5 yielded no response and 35 delivered rapidly. Of these 35 cases pathological complications developed in 30. In several cases, and particularly those where the blood pressure was high at the onset of labor, immediately following injection there occurred a slight rise followed by a drop in 15 to 25 minutes and this last reading persisted throughout labor. The most likely explanation for this phenomena is that it is due first to the action of pituitary extract and later to the thymus extract.

The following cases illustrate results with the drug:

Case 1. J. B. Aged 23, Para-II. First pregnancy December 29, 1928, terminated in forceps delivery after a 24-hour labor and vaginal lacerations. Pelvic measurements Sp. I 22½; Cr. I 24; Bitrochanteric 28; Baud 20; C. D. 10½; C. V. 9. Entered hospital September 12, 1930, at 10:00 A. M. Diagnosis—Cephalic—O. L. A. Bag of water had ruptured upon entry. At 12:40 P. M. .5 cc. thymophysin given and at 1:05 baby of 2960 grm. weight was delivered.

Case 2. W. B. Aged 24, Para-I. Entered hospital September 20, 1930, at 6:00 A. M. Diagnosis—Cephalic, O. L. A. B. P. 128/96. Pelvic measurements Sp. I 26@; Cr. I 29; Bitrochanteric 34; Baud 21½; C. D. 12½; C. V. 11. First stage slow and tedious, pains were regular and moderately strong. F. H. T. —134, B. O. W. intact. Pains became irregular, interval between them increased and finally pains almost ceased. At 1:25 and 2:00 P. M. .5 cc. thymophysin given. The pains immediately increased in severity and frequency. In fact almost tetanic contractions resulted. Baby was born at 4:16 P. M. As a result of this action there occurred a second degree vaginal laceration and an uterine hemorrhage of about 400 cc. Length of labor first stage 12 hours, second stage 16 minutes, and third stage 14 minutes.

Case 3. R. G. Aged 31, Para-II. First pregnancy terminated in normal delivery. Patient came into the hospital at 12:10. The position of the fetus was O. R. A. and the bag of water was intact. F. H. T.—138. Pains were regular and of one minute duration. At 1:30 A. M. bulging was observed. After preparations were made for delivery the pains became weaker, the interval between became larger until uterine contractions all but ceased. The presenting part was then at plus 2. At 1:50 A. M. .5 cc. of thymophysin was given and the uterine contractions immediately began, became violent and at 2:00 P. M. the patient delivered with difficulty. The head was born with ease but the shoulders were arrested in the transverse diameter and the cord compressed resulting in cyanosis. The shoulders were delivered with extreme difficulty and two days later the child developed Erb's paralysis in the left arm which cleared up before the baby was discharged from the hospital. The shoulder arrest was due to the tetanic uterine contract and contraction of the cervix thus preventing their rotation.

These cases illustrate some of the untoward results often encountered in the use of thymophysin. Case I illustrates a rapid delivery following the use of the drug. Case 2 is typical of a complication resulting from rapid uterine contractions to the end that the sinuses are not closed and hemorrhages resulted. Case 3 again demonstrates another result obtained from almost tetanic uterine contractions and resulting injury to the baby. Still another disadvantage to the use of the drug is that at times it is ineffectual, especially when the uterus is too exhausted, too distended or when labor has not yet begun.

It is not my intention to convey the impression that thymophysin is without use in obstetrics, but by presenting some of the bad effects resulting from the use of the drug to impress the profession with the fact that when the drug is used the accoucheur should be prepared for any emergency and to emphasize the fact that it is not to be used indiscriminately.

SUMMARY

1. Thymophysin resulted from experiments on uterine muscle with thymus and pituitary extracts singly and combined.

2. Haynes, Jarcho, and Schoeneck have reported successful results with its use.

3. The drug is administered intramuscularly

and in our experience it is best to begin with a small dose and repeat if necessary.

4. The drug is not devoid of danger both to mother and child and should not be used indiscriminately and with careless abandon.

5. The preparation does hasten delivery and is best given in the second stage in women with generally contracted pelves.

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RESTLESSNESS IN INFANCY*

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Need one offer apologies for presenting a subject apparently so trivial as the crying baby, especially to a group of busy practioners? However, are there any more cases which keep you on the telephone as the mother who is kept awake and allowed little time to relax from fussing with the infant? As a matter of fact, as you look back upon your years of practice, have not these been frequently the cases who journeyed to another physician because "he was good with babies?"

I firmly believe that the consideration of some of the more frequent conditions and a study in some of their causes and treatment is more profitable to the general group of physicians than the rarer cases one so seldom encounters in an ordinary practice.

One cannot classify these cases unless he attempts to describe the hypertonic or vagotonic group and those non-hypertonic cases due to some other cause rather than a disturbance of the sympathetic nervous system. In this group of cases, I believe one encounters two entirely separate groups, e. g., those cases in which there is a poor balance of the nervous system of the parents, the offspring are born with a congenital "imbalance of the automatic nervous system"; and those cases which seem to be the result of post-natal influences and emotional parents. The deciding factor being that a large number of the latter group respond to treatment much more readily than do the former.

Both these groups of cases present essentially the same history. The gain in weight is slight, perhaps no more than two to three ounces per week, they vomit easily, and in this group, pylorospasm and rectal spasm are very frequent. Restlessness is a very imminent symptom, they cry most of the time, perhaps more often during the day than the night, and they have frequent bowel movements. Such a history one might obtain from a mild dyspepsia.

In my experience, this condition and group of symptoms have been the result of frequently removing a baby from the breast and often condemning certain foods. If there is one single thing, to my mind, which will decrease the infant mortality more than any other measure, it is keeping the baby on the breast.

Holding to the nervous origin of these cases, does it not occur to you that if it is possible to correct the imbalance of the nervous system in early life, that a great many of the behaviour problems in older years may be corrected. The plain "spoiled child" may cease to exist, at least from this cause.

How often a frantic mother brings her child to you for a tonic because he "just won't eat"? He bites his fingernails, is restless at night, and he has tantrums when things don't go to suit him. Upon examination of this child, he is pale, underweight, struggles and cries, making a good examination difficult. Then, when you attempt to treat these children for an acute infection, one can't keep them in bed, they will not take their medicine, it is impossible to force fluids into them, or to attempt measures which one knows will be helpful.

Now one cannot be too dogmatic in these cases, and neglect a thorough physical examination and consideration of the baby individually, and overlook a sensitive skin from woolens or overheating, or a tight binder or diaper. An enumeration of the post-natal conditions will reveal a number

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of common causes which, if corrected, may bring prompt relief.

One remembers those babies born after a difficult delivery, perhaps with a varying degree of cyanosis and refusal to nurse well for a few days, and generally spastic with increased reflexes and hyperacusis, all pointing to a cerebral injury, with or without convulsions. The early diagnosis is impossible except they do not respond to the ordinary measures of treatment, and, of course as time passes on, the diagnosis of Littles' Disease may easily be made and we need not feel bad because the injury and damage has been beyond our present power of treatment.

Infantile tetany may be the cause of restlessness, and is elicited by a Chvostek sign and corpopedal and laryngo-spasm and a lowering of the blood calcium. While tetany is rare in young infants, it does occur.

Many times a baby cries because he is just plain hungry. With the present general knowledge of proper feeding, one seldom encounters the food disturbances, formerly seen. It is often the fact that the feeding has been too conservative. Some time ago, I had the opportunity to observe a group of breast fed infants of two months of age and under, frequently these babies received six and, I remember a few instances where they received seven ounces at each feeding. These were quiet babies and frequently gained eight to ten ounces per week. The same thing may be said of lactic acid formula, a baby may be allowed to take what he will. High fat feedings and raw milk are far more likely to produce disturbances than is too large a quantity at each feeding.

Babies, victims of congenital syphilis, are restless often because nasal discharge impairs breathing or the tender joints may be the cause. Here, I might say that swelling need not be marked, as just as frequently, the affected joints with no swelling are fully as tender. Of course, the family history is significant as is the facies, enlarged liver and spleen, and blood reaction.

Outside influences must be considered. Many times these babies are kept too warm, the skin covered with an eruption of "prickly heat," the result of placing the infant in a basket on a pillow with blankets piled on him. Often just changing to a hard mattress and cotton shirts will work miracles. The tight abdominal binder or uncomfortable napkin must be considered.

A congenital pyelitis must be ruled out by examination of urine.

A congenital anal structure may be the source of pain and distress from distension or constipation.

The manner in which babies take their feedings is highly important. Some babies go at their feeding greedily and gulp in a great deal of air with resulting distension. Nursing in the infant is a reflex action, but in a certain group of babes, the act becomes conscious. This is plainly seen by putting these same babies to the breast during sleep, which may be induced by a mild sedative.

Treatment consists mainly in placing these children under placid surroundings. If the parents are of the nervous and flighty type, have some one more composed in attendance. I believe it is only by a quiet attitude that these children outgrow their emotional tendencies, certainly having a tired neurotic mother and grandmother and a few neighbors thrown in does not instill much composure in the infant, if all their remedies and suggestions are followed. I have frequently removed these infants to hospitals which may alone suffice as a therapeutic measure.

Assuming that a large number of these babies are born or develop shortly after birth, a hyperactive vagus, one drug acts as nearly as a specific as any we have at our command.

Atropine, if given in proper dosage, secures rest and freedom from symptoms. The usual dosage being 1/1000th grain, but this dose might be increased to just within the toxic limits of the drug to secure the necessary result. Lippman has given doses as high as 1/15th grain, three or four times daily. The failure, in my impressions, is more frequently due to using too small doses of the drug. It is true that frequently one encounters an infant who seems to have an idiosyncrasy to the drug, this is manifested by flushing—dilated pupils, frequently by extremely high temperatures up to 105 or 106 degrees. It is peculiar, to me however, that these infants often secure the greatest benefit. Simply reducing the dosage or withdrawal of the drug is all that is necessary to combat the reaction.

In a personal communication recently from Aldrich, he asked me if I had ever observed that these infants often presented symptoms of enlarged thymus and if exposed to x-ray irradiations, the result was just as marked in the quiet-

ing effect upon the child, as it is in removing symptoms of an enlarged gland. I have since that time, had a few children exposed to x-ray in small doses, and they did respond, so this measure may be open to further investigation.

Small doses of paregoric m. II or III is often of value in those cases with frequent bowel movements and tenesmus. I have also inserted a capsule rectally containing gr. I sodium Amytal and secured excellent results where sedatives were indicated.

Phenobarbital preparations have been used by many with excellent results.

High protein feedings or addition of calcium caseonate affords relief in some cases. The greatest benefit as far as food is conceived rests upon stimulating the breasts by massage or electric breast pump and supplying additional food in complementary feedings. Do not remove from breast only as a last resource.

SUMMARY

Certain babies are born with, or develop shortly after birth, a hyperactive vagus associated with distention, due to spasm of certain areas of the gastro-intestinal canal producing pain and restlessness.

Under proper placid surroundings and attendants, these babies are less likely to exhibit psychopathology in later life.

Atropin in proper dosage acts as a specific in those cases of nervous origin.

X-ray therapy while only tried in a few cases, appears to be of decided value.

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DISCUSSION

Dr. J. J. Donahue, East St. Louis: This presentation of Dr. Carey's, it seems to me, is very complete, a very nice handling of a problem which so very often is presented to men who handle many young babies. The old idea, and a popular one, that all babies are expected to give more or less trouble—usually more—is still rather evident, but promises to diminish in proportion as our ability to cope with these problems increases.

It seems, from consulting previous literature, that most of the attention in earlier days—fifteen or twenty years ago—was directed almost exclusively toward a change of feeding, and I think that Dr. Carey expresses the point of view of those who appreciate it when he says that certainly babies ought to be kept on the breast if possible.

However, it seems to us that one of the great difficulties we experience with hungry babies is the combating of the idea that the mother has concerning the adequacy of the nourishment which she is able to give, and we have a lot of difficulty persuading our mothers that complementary feeding is necessary. They very stoutly maintain, based on the evidence that the breast is giving good milk perhaps right along, that there is enough; but, of course, that is a fallacy. Dr. Carey has pointed out that most of our difficulties with these babies would be overcome if they were just given enough to eat.

It would seem that hunger is the most common cause of so-called colic as we see it down here. The types that we recognize now are certainly very well established. Most hypertonic children will probably be hypertonic individuals all through life, so that it is not at all unusual to find children of different types corresponding, to a certain extent and probably quite truly in most cases, to the type of heredity that produced them.

The work that Dr. Carey mentioned of Dr. Gerstly in finding a tremendous difference in the amount of food that children take at the breast normally—in quite young well-fed children there is extreme variation, up to five or six ounces, perhaps more at a time—would certainly prove to us that the matter of food intake must be considered as the first problem to solve, whether the child is adequately fed and getting enough to fill up his stomach, and thus bring on the rest that he seems to need.

The whole picture is well covered with the spasticity, not only of the pylorus, but with the entire intestinal tract, including the anal sphincter. Naturally, the crying baby when sucking the fist or bed clothing or whatever may come in contact with the lips, will swallow air, which often causes a spasm of the intestinal musculature.

As to whether or not these children will grow up into typically spoiled children, is, of course, a speculation; but certainly there is reason to hope that, if we are able by starting a child early to correct such difficulties, perhaps that very large group of hypertonic children and hypertonic mothers will be less.

I don't think there is a single thing that can be added to what Dr. Carey has so very well covered.

Dr. H. S. Maupin, Quincy: I wonder why Dr. Carey did not mention otitis media as a condition that causes a lot of restlessness in children. Especially lately, I have had quite a few children two or three weeks old crying continually, and I have found out that it was caused by otitis media. I have had several children with an enlarged thymus which have given quite a bit of trouble in the last year. About the only symptom they have had has been restlessness. Under x-ray treatment the trouble has cleared up immediately.

Dr. John Carey, Joliet: Otitis media, of course, produces restlessness, and is a common occurrence in young infants. As I attempted to emphasize, a com-

plete physical examination is essential. The auriscope is one of the most necessary instruments of the pediatrician.

The "speculation" as to whether the correction of restlessness in infancy will produce a better balance of the nervous system in latter life seems to me to be a certain thing. The increased handling and fondling, during infancy, is cumulative in its effect: each month and year, the child demanding more, and gradually growing more difficult to discipline.

This lack of discipline in the modern home contrasted to that of the old-fashioned American home, to my mind, is the forerunner of the disregard for social and moral laws.

THE MANAGEMENT OF CHRONIC ARTERIAL OCCLUSIONS OF THE EXTREMITIES*

Geza de Takats, M. D., M. S., F. A. C. S.
CHICAGO

Arterial occlusion to a part means deprivation of the tissues from nourishment, primarily oxygen. This occlusion may be sudden as in a peripheral arterial embolism or gradual as in arteriosclerotic processes or in thromboangiitis obliterans. This classification is of more than academic interest. In the embolic occlusion a thrombus breaks loose from endocardial vegetations or from arteriosclerotic plaques and obstructs a large artery. The obstruction is sudden and total. Its relief can come either by an operative removal of the embolus[1] or if the limb is gangrenous by the removal of the limb. Occasionally the blood supply of the part may be sufficient in spite of a complete block of the main vessel. The gradual obstruction leaves time for compensatory development of collateral circulation. This will be more intensive in the juvenile than in the arteriosclerotic occlusions[2]. The process in the artery, however, is usually generalized, not limited to one area, and will reappear in other regions, in arteries of the heart, brain, spinal cord. The recognition of such a distribution may withhold one from too active local surgical procedures. Finally there are purely spastic forms of occlusion without any organic obstruction.

In this study I limit my discussion to the chronic progressive type of arterial occlusion. They fall roughly into two groups, namely that of inflammatory origin, such as Buerger's disease represents and that of a degenerative type as seen in peripheral arteriosclerosis. Sometimes they are differentiated as juvenile and senile gangrene. There are also mixed types of the two clinical entities[3]. Disregarding the etiologic factors, which today are as yet unsolved, there is the one important feature, common to both groups, namely: the progressive narrowing of the arteries with diminution of blood supply to the part. A third variety is due to an increased viscosity of the blood with a short coagulation time and a tendency to thrombosis, in polycythemia. To estimate the impairment of circulation a thorough study of the circulation with possibly simple clinical methods must be described.

METHODS OF STUDY

The skin temperature. Chart 1 shows our system of studying these cases. The skin temperature has been determined by 1. palpating with the palm of the hand; 2. by mercury thermometers; 3. by the thermocouple galvanometer. For research studies the last of the three is by far the most important. Coulter, Gaddas and I[4] have used it to evaluate changes in blood flow following various diagnostic procedures. But it also served as a valuable check on the temperature readings taken with a mercury thermometer. Any mercury thermometer, which is graded to read between twenty and forty degrees of centigrade (eighty to one hundred and four degress of Fahrenheit) can be used. It is inserted under a square felt pad and fastened with a tape of adhesive. The felt pad being an excellent insulator, the air surrounding the skin will be warmed up and the thermometer can be read after ten minutes. This method described by Ipsen[5] has served the important purpose of checking on the accuracy of our palpatory findings. It is easily possible to detect one half de-

*Read before Section on Medicine of Illinois State Medical Society, May 6, 1931, East St. Louis.

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gree of centigrade differences with the palm of the hand.* Thus for clinical purposes, a good estimate of the fall in temperature can be made with the palm of the hand.

In the normal individual, when the limb is in the horizontal position and has been under a blanket for ten minutes there is a very gradual fall in skin temperature from the thigh to the toes. The fact that many individuals, particularly young women have cold hands and cold feet is well known. These vasospastic phenomena however are quickly ruled out by applying dry or moist heat to the part under which they quickly warm up. The type of patient, who frequently also suffers from migraine, or menstrual disorders thus permits a differentiation between vascular spasm of allergic or endocrine origin. But even under normal circumstances, there is a definite vasoconstriction, which is relieved under ether anesthesia. In a patient with no circulatory disorder, I have found that spinal anesthesia raised the temperature of the skin of the foot four degress of centigrade.

The factor of vasoconstriction then must be seriously considered when an estimation of arterial obstruction is attempted by measurement of skin temperature. Nevertheless, when there is a *sudden* fall in temperature, particularly in the lower leg, or on the thigh, the finding is highly indicative of a serious obstructive lesion, and in determining the level of amputation.

The question whether an arterial occlusion is of organic or spastic origin or whether an organic occlusion is aggravated by a superimposed spasm is of more than academic interest and will be a decisive factor in treatment. Up to date the following diagnostic procedures have been advocated to differentiate between organic and spastic occlusions[6]:

The vasomotor index, determined by intravenous injection of typhoid vaccine[7], the paravertebral block[8], spinal anesthesia[9], and the test bath followed by oscillometric readings[10]. A critical appraisal of these methods would exceed the limitations of this paper. It is sufficient to state that these methods are either not ambulatory or are not entirely harmless. In addition, the typhoid vaccine and the test-bath may not relieve the vasomotor spasm entirely. In my circulatory clinic, two tests have been worked out, which are both ambulatory and simple.

1. *The peripheral nerve block.* The block of the posterior tibial nerve at the inner ankle will result in a vasodilation at the plantar surface of the big toe. If skin temperatures are read before and from ten to fifteen minutes after the nerve block, together with an anesthesia, an increase in skin temperature will take place. No increase or slight increase in temperature indicates organic obstruction, whereas spastic occlusions will relax and the temperature will rise to 33° C. or higher.

DIAGNOSTIC VALUE OF POSTERIOR TIBIAL BLOCK

	Number of cases	Average rise in temperature	Average obstruction index
Group I	10	7°C	None
Group II	10	1.5°C	5
Group III	10	4°C	3

Group I, patients with cold feet, good pulse, pure spasm no obstruction. *Group II,* patients with organic occlusions, no or hardly any superimposed spasm. *Group III,* patients with organic occlusion and considerable spasm.

Obstruction index (Morton)=Normal vasodilation level 33° C)—maximal temperature obtained after nerve block.

2. *The diathermy test*[4]. When diathermy current of 1000 to 1500 milliamperes is applied to the lumbosacral region for thirty minutes, a marked rise in temperature takes place in the normal leg above 33 Centigrade; patients with organic vascular obstruction show no or only an imperceptible rise. Patients with obstruction and superimposed spasm show some rise but do not rise to the normal vasodilation level of 33° C[9].

These two tests give a simple, rapid orientation as to the character of vascular occlusion and play a decisive influence in selecting the proper treatment.

The pulse should be palpated in the popliteal fossa with flexed knee, behind the inner ankle

*More recently a skin thermometer (Tycos) has been used with great advantage.

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and on the dorsum of the foot, in line with the second toe. The findings are graded from 3 to 0. A good pulse does not exclude organic changes in the small arteries. One particularly encounters this type in diabetic circulatory disturbances. The absence of pulse, on the other hand, is not incompatible with adequate circulation, because in slowly progressing vascular occlusions a good collateral circulation can compensate for the obstruction in the main artery. One can frequently notice the absence or great diminution of pulse at the ankle in older arteriosclerotics. They may not have any complaints and their foot is satisfactorily warm.

In the development and maintenance of such collateral circulation, the condition of the heart is important. Patients with hypertension will not develop arteriosclerotic gangrene as readily as patients whose high blood pressure is gradually falling because of myocardial insufficiency. Digitalis may be beneficial in impending arteriosclerotic gangrene, in that it helps to pump more blood into the constricted vascular bed. Vasodilators, such as euphyllin, diuretin may improve the circulation somewhat in angio spasms.

In Buerger's disease the peripheral pulses may be present in the early stages, or may be felt after a warm test bath. Usually, however, they are greatly diminished or absent. Following a course of treatment with typhoid vaccine, previously absent pulses may become palpable, either because the superimposed spasm has been relieved or because new collaterals are bringing more blood into the main vessel below the obstruction. A certain amount of recanalization may also occur.

In spastic occlusions, the vessels pulsate normally between attacks. When a spasm is induced by cold water or air, the digital vessels and sometimes even the vessels at the wrist or ankle become unpalpable. Heat promptly elicits pulsations.

The histamine test. This test has been described previously in detail.[11] When a 1:1,000 solution of histamine acid phosphate is injected intradermally with a fine hypodermic needle, using not more than 0.1 cc. at a time, a characteristic wheal develops with a large arterial flare around it. The flare is due to a reflex vasodilation of the small arteries of the skin. It is absent when there is not enough blood in the cutaneous vessels to fill up the dilated arterioles, when an arterial spasm exists, which the histamine can not overcome or when the cutaneous sensory nerves have degenerated because of a nerve injury. As the latter two factors can easily be recognized, the test may be conveniently used for testing collateral circulation and the level of circulatory efficiency. Wheals are placed above and below the knee, at the middle of the lower leg, at the ankle and on the dorsum of the foot. The arterial reaction, graded on the basis of 0 to 3 is read in five minutes.

In a large series of cases, the test has proved to be useful in[1] determining improvement in collateral circulation, following therapeutic measures and in determining the level of amputation, when indicated. An amputation is never done at a level which gives a negative histamine reaction. A positive histamine reaction is no absolute guarantee for the viability of the stump, but indicates that at least the skin at that level has fair blood supply. The histamine reaction tells nothing about the level of occlusion in the large vessels, and is our simplest test for collateral circulation.

The oscillometer. Pachon's oscillometer, widely used in France for the last fifteen years, has received a varied reception in this country. While Samuels[12] has valued it highly, other authorities[3] did not feel its use of any help in vascular disease. In our circulatory clinic, the oscillometer is routinely used. Contrary to the histamine test, it does not tell anything about collateral circulation, but determines the occlusion in the main artery, by a loss of oscillations below a certain level. The oscillations at various blood pressure levels are charted on a graph, and valuable information can be gained from the shape and height of the curve. While it is not necessary for general use, it serves for a much better understanding of the vascular status. Spasm will also influence the oscillations, but this can be eliminated by a previous hot bath for five minutes. Edema, particularly the hard, thrombophlebotic variety also diminishes the swinging of the dial, but this error can be readily diagnosed.

11. de Takats, Geza: The cutaneous histamine reaction as a test for collateral circulation. Arch. of Int. Med. 48: 769-785, 1931.

12. Samuels, S. S.: The value of oscillometry in the study of the circulatory disturbances of the extremities. J. A. M. A. v. 88, 1780-1782, 1927.

The history of pain at exercise, later rest pain, the postural changes of color, the behavior of skin temperature, pulse, the histamine test and the oscillometer are briefly the most helpful points in diagnosis. The novocaine block of peripheral nerves or the diathermy test are the simplest diagnostic methods to differentiate organic from spastic occlusions. Treatment mainly depends on the proper diagnosis.

Treatment of peripheral vascular diseases. The objects of treating organic occlusions of peripheral blood vessels are the following: 1, efforts to increase collateral circulation; 2, efforts to alleviate pain; 3, removal of gangrenous parts at proper circulatory levels.

The increase in collateral circulation can be favored by strengthening the heart of arteriosclerotics with myocardial damage. This must be done by a close cooperation with an internist, who can accomplish a great deal by improving the central motor with digitalis and decreasing the peripheral resistance by theobromin preparations. In the periphery, circulatory exercises, continuous heat during the night with an electric baker, hot and cold alternate baths, lumbar diathermy all have a limited value. *Early cases of circulatory impairment may very definitely be benefited* and the progress of the disease *may be arrested.* It is clear, however, that in a complete vascular occlusion, with inadequate collateral circulation such measures can only fail and do no good.

For the alleviation of pain, which is excruciating in the more advanced cases, morphine is frequently resorted to. The desensitization of the foot by injecting the peripheral nerves with alcohol has been advocated by Smithwick and White.[13] I have used it in two instances in one arteriosclerotic occlusion and in one case of Buerger's disease with gangrenous toes. In both cases a complete relief of pain resulted for several months. However, both feet had to be amputated later because of an ascending gangrene.

In estimating the value of this method, it seems indicated in patients, who are in continuous severe pain, but when amputation is not imperative or is refused by the patient. The immediate relief and the warming up of the extremity following the alcohol-block is striking. It must be remembered, however, that later, when the peripheral nerve degeneration has reached the skin of the toes, purposeful vascular, defensive reactions are abolished, and infection may set in without any reactive hyperemia. I have observed this in one of the cases.

Amputation in case of organic vascular occlusion is indicated, when irreversible tissue changes have set in and when a definite level of circulatory failure is clearly established. If the gangrenous limb is infected and the patient is in danger of septicemia, the amputation is imperative. The stump should be left entirely open and Dakinized. A secondary closure or an amputation higher up can be performed, when the danger of septicemia is overcome. If the gangrene is dry, practically aseptic, the proper level of amputation is best determined by the measurements of skin temperature, the histamine test and the oscillometer. The sudden drop of skin temperature in organic occlusions frequently coincides with the level, where the histamine reactions become negative. This is usually farther to the periphery than the oscillometric changes would indicate. When no other methods are available, the pulse and the changes in skin temperature are most helpful.

Amputations in chronic vascular diseases should be performed with circular, cuff methods, large amputation knives should ensure even, nontraumatized muscular surfaces. Low spinal anesthesia is the method of choice in arteriosclerotics and diabetics.

The treatment of spastic occlusions aims to overcome spasm. Heat in any form relieves local spasms temporarily. Diathermy, electric bakers, whirlpool baths help in mild cases. Sometimes it is possible to remove the cause of such spasms, as for instance in a case of cervical ribs or other mechanical irritations of vasomotor nerves. Young girls with cold hands and feet, chapped dry skin and chilblains have frequently low metabolic rates and their circulation greatly improves with thyroid therapy. More severe, continuous spasms, which are progressive and lead to symmetrical gangrene are subjected to sympathetic ganglionectomy. For the upper extremities the stellate, first and second thoracic ganglia, for the lower extremities the second, third and fourth lumbar ganglia must be removed in order to remove all sympathetic fibers going to the extremities. While there may be

13. Smithwick, R. H., and White, J. C.: Elimination of pain in obliterative vascular disease of the lower extremity. Surg. Gyn. and Obs.

a discussion about the origin of these vascular spasms, sympathectomy undoubtedly prevents further contraction of the vessels and has proved to be very successful in true vascular spasms.

In the mixed type of occlusion, in which organic obstruction is aggravated by a superimposed spasm, sympathectomy also has some followers. In our work, we have excluded Buerger's disease from the indications for sympathectomy, although some early cases really manifest a great deal of spasm and very little obstruction. In Buerger's disease circulatory exercises, heat in all forms, complete abstinence from nicotine and foreign protein injections have been advised. Typhoid vaccine intravenously in doses from twenty-five million as high as three hundred million bacteria seemed very efficacious in our hands. It not only relieves spasm temporarily, but influences the chronic inflammatory process, activates it and then helps to absorb the inflammatory reaction. During the initial phase of chill, thrombosis may occur, very seldom, but often enough not to look on these injections as a perfectly harmless procedure. Injections of ten per cent. sodium chloride, ten cubic centimeters daily can be given to hospitalized patients, for a period of four to six weeks. It will usually not be possible to treat ambulatory patients with daily intravenous injections for such a long time. My experience with sodium chloride is very limited, it produces no systemic reactions, like typhoid vaccine. The mechanism of action is now being investigated.

Summary. The proper management of peripheral vascular diseases requires an exact determination of the type and extent of vascular disturbance. Spasms should be differentiated from organic obstructions. The early diagnosis of these cases is in the hands of the general practitioner. The surgeon usually sees the late stages in the form of irreparable damage. When the diagnosis and level of circulatory impairment are determined early conservative treatment is often successful. Various forms of treatment and the indications for surgical operations are briefly discussed.

122 S. Michigan Ave.

DISCUSSION

Dr. S. E. Munson (Springfield): I think that this is certainly a very timely paper to be brought before the Section of Medicine. We all know the value of dry clinics, and I think that the Doctor has given you a dry clinic this morning with his charts which is certainly very valuable.

Another point probably to emphasize is the simple way in which he advises the determination of the differential diagnosis of the causes of the occlusions, the extremities, and the measures for their relief. I think he is one probably who has had a great deal of experience. I can't say that I have had as wide experience in the differential diagnosis of the occlusion of the extremities as some of the surgeons. Most of the cases that I have seen have been with the surgeons.

Of course, one important thing always is the x-ray. Particularly in the arteriosclerotic cases that are mostly present in people past middle life, the x-ray examination alone will determine the condition of the leg. I recall one case last year which a doctor brought in from the country. He had his own x-ray machine and he had x-rayed the particularly involved limb, but it did not show any sclerosis of the tibial artery or any of the arteries of the extremities. It was then a matter of exclusion as to what was the condition. This being a man in his sixties, pain having come on very severely for a period of time, having difficulty in relieving this pain and also having somewhat the appearance of cyanosis upon depressing the limb and the whiteness upon elevating it, we knew we had a serious condition to contend with.

This man was then x-rayed in the hospital. It showed a typical sclerosis of the tibial artery, as well as the femoral artery. On account of the progress of the situation, amputation was advised in this case, above the knee, from which he had a prompt recovery, showing the importance of the x-ray examination.

Of course, the cases that occur before middle life are mostly the spasm cases, and we have all seen those. We have seen the typical Raynaud's disease in younger persons. I think the method that the Doctor has mentioned to determine the point of involvement in the thrombo-angiitis cases is very important. These cases of thrombo-angiitis are certainly the ones that you will see more frequently before the middle age of life. Those cases formerly have been thought to be due largely to excessive smoking. Of course, I am just bringing this in as a point of differential diagnosis. It has also been mentioned that the Hebrew race is more largely affected than other persons. I observed in one case where a man reported a large number of cases and only seven of them were Gentiles. These were cases of changes of the typical thrombus types. A more recent observer said that of the two races, the Hebrew race exceeded only by a few.

Most of those writing upon this subject say definitely that there is a more unfavorable prognosis in the treatment of these cases when these patients are excessive smokers. In those cases where there has been amputation and the use of tobacco has been prohibited, they do better; while in those cases where it is very difficult for them to give up the use of tobacco and where they have found recurrences of the thrombus

condition, it has been found that they have again taken up the use of tobacco.

One important point that the Doctor brought out is that we must not always look for the changes in the extremities. Taube of New York has reported in the literature twenty-six cases of involvement and has added two of his own of mesentery thrombosis. So I think it is important for us to know that we may find these conditions existing in places other than in the extremities.

I think the Doctor's emphasis on the exact determination of the type and extent of the vascular disturbance is timely, and the importance of an early diagnosis made by the general practitioner who usually sees these cases first; and also his recommendation that these cases be handled in close co-operation with a medical man, that medical treatment may be attempted before surgery in certain types of cases.

Dr. L. Feldman (Chicago): I should like to ask the essayist the incidence of thrombophlebitis in his Buerger's disease cases?

Dr. Geza de Takats (Chicago): I am very much obliged to Dr. Munson for his excellent discussion. I did not want to give the impression that the x-ray is of no value in peripheral vascular diseases. What I meant to say was that simply by a sclerotic shadow on an x-ray film we cannot decide whether or not that limb has enough collateral circulation, because if the obstruction came on very gradually we have enough collateral circulation to insure the viability of the limb.

Of course, there was no time to go into the etiology and the management of Buerger's disease. We do stop tobacco entirely, because it seems that these patients do much better without it. They put on weight and their general health is improved. That it is not a true etiological factor is brought out by the fact that I myself have seen typical cases of Buerger's disease in people who have never smoked at all. We believe, however, that it is very important to stop them from smoking.

Also, the relationship of Hebrews and Gentiles is very difficult to evaluate, because the statistics that we have, particularly the older statistics of Buerger, do not state the total percentage of Hebrews from which these cases are taken. In other words, Dr. Buerger's practice is essentially a Jewish practice; and it is quite obvious that his percentage of Buerger's disease will be higher. The Mayo Clinic reported about 50 per cent. Gentiles and 50 per cent. Hebrews. Undoubtedly, however, there must be a predisposing factor there.

As to the general involvement in Buerger's disease, the recent article in the A. M. A. Journal that Dr. Munson mentioned is very illuminating. I myself have seen a patient with a bleeding gastric ulcer in whom I finally had to do a gastric resection, and who had typical changes in the vessels, both in the mesenteric and in the gastric vessels, of Buerger's disease. This man also had an involvement of the periphery.

In regard to the question of Dr. Feldman concerning the incidence of thrombophlebitis, about 75 per cent. of our series had a superficial phlebitis long before we were sure that they are victims of thrombo-angiitis.

THE AMERICAN ASSOCIATION FOR THE STUDY OF GOITER OFFERS AN AWARD OF THREE HUNDRED DOLLARS

The American Association for the Study of Goiter again offers an award of Three Hundred Dollars ($300.00) for the best essay based upon original research work on any phase of goiter presented at their Annual Meeting in Hamilton, Ontario, Canada, June 14, 15 and 16, 1932. It is hoped this offer will stimulate valuable research work, especially in regard to the basic cause of goiter.

Competing manuscripts must be in English and in the hands of the Corresponding Secretary, J. R. Yung, M. D., Rose Dispensary Bldg., Terre Haute, Ind., not later than March 15, 1932. Manuscripts arriving after this date will be held for the next year or returned at the author's request.

NEUROLOGIC SYNDROMES ASSOCIATED WITH HYPOGLYCEMIA

Archie D. Carr, St. Louis (*Journal A. M. A.*, Dec. 19, 1931), states that no matter what the cause, hypoglycemia may be manifested by stupor, amnesia, muscular twitching or convulsions and a number of less striking symptoms, such as restlessness, weakness, anxiety and fatigability. Diagnosis of various functional and organic nervous diseases may be made if the conditions of hypoglycemia is not considered. The diagnosis of hypoglycemia depends on a careful history of preceding symptoms, the recognition of coexisting diseases and, above all, the determination of the blood sugar level.

RÔLE OF PROGESTIN IN FEMALE REPRODUCTIVE CYCLE

George van S. Smith and O. Watkins Smith, Brookline, Mass. (*Journal A. M. A.*, Dec. 19, 1931), outline the functions of progestin in its rôle in the normal human menstrual cycle and in pregnancy. The luteinizing hormone which stimulates the production of progestin was administered by them with promising results, to nineteen patients whose chief symptom was abnormal flowing. The authors believe that early clinical and experimental evidence points to another function of progestin; namely, that of inhibiting the production of the follicle hormone and promoting its excretion.

WHEN THE DOCTOR POETIZES

A St. Petersburg physician, pondering upon the strange facts of life in the semi-tropics, asks:

If a man kicked the bucket in yonder drug store
Would the face of the druggist turn pale?
Could he furnish me powder for the face of a cliff
Or a brush for the teeth of a gale?

What acid takes moles from our own waterfront,
Or a corn from the foot of the stairs?
Is the moon nearly broke when its last quarter wanes
And does the Curb market deal in plowshares?

Society Proceedings

BUREAU COUNTY

Forty-five physicians and surgeons from cities throughout this section of the state gathered at St. Margaret's Hospital in Spring Valley Tuesday evening for a scientific program in conjunction with a meeting of the Bureau County Medical Society.

Dr. Len Unger of the Northwestern University medical school talked on "Allergy," and Dr. Edward A. Oliver of the Cook County Hospital discussed "Practical Points in Dermatology." The addresses were followed by general scientific discussions.

With Dr. Flint, of Princeton, presiding, there was a brief business meeting during which officers were elected as follows: Dr. R. E. Miltenberger, Spring Valley, president; Dr. K. M. Nelson, Princeton, vice-president; and Dr. C. Bates, DePue, secretary-treasurer. Dr. Bates was re-elected, having held that post the past year.

Attending the meeting were medical men from Spring Valley, LaSalle, Peru, Depue, Princeton, Mendota, Streator, Ottawa, Granville, Dixon, Earlville and Oregon.

The meeting Tuesday night replaced the monthly meeting of the St. Margaret's Hospital Physicians' Club.

COOK COUNTY

CENTRAL STATES SOCIETY INDUSTRIAL MEDICINE AND SURGERY AND CHICAGO SOCIETY INDUTRIAL MEDICINE & SURGERY

Joint Meeting, Wednesday, December 2, 1931

Present Status of the Treatment of Fractures.....
.....Charles L. Scudder, Boston
Discussion.....C. R. G. Forrester
General Discussion.

CHICAGO ROENTGEN AND CHICAGO UROLOGICAL SOCIETIES

Joint Meeting, Wednesday, December 9, 1931

Urologic Aspects of Intravenous Urography.....
.....Herman L. Kretschmer
Intravenous Pyelography, Its Development and Progress.....Robert A. Arens
Discussion—Gustav Kolischer, Charles McKenna, Hollis E. Potter, James T. Case.
General Discussion.

CHICAGO MEDICAL SOCIETY

Regular Meeting, Wednesday, December 16, 1931

(Program given by University of Illinois, College of Medicine)

Symposium on the Infantile Cerebral Palsies ("The Spastic Child")

From the Neuropsychiatric Standpoint.....
.....H. Douglas Singer
Diagnosis, Pathology and Subsequent History of Cerebral Hemorrhage as Seen in 1,100 Premature Infants. (Motion Picture and Lantern Slide)....
.....Julius H. Hess
From the Orthopedic Standpoint.....H. B. Thomas
Correction of Speech and Athetoid Movements. (Motion Picture and Lantern Slide).....
.....Abraham A. Low
The "Spastic Child," from the Educational Viewpoint.—Miss Jane A. Neil, Assistant Superintendent of the Public School System of Chicago, Illinois

GREENE COUNTY

The regular meeting of the Greene County Medical Society was held in Roodhouse, December 11, 1931. After feasting bounteously on a chicken dinner as guests of the Roodhouse physicians, the society was called to order in the parlor of the Oak Cafe by the President, Dr. W. H. Garrison. A short business session followed and officers for the year 1932 were elected as follows:

President, Dr. A. R. Jarman; vice-president, Dr. O. J. Gause; secretary, Dr. W. H. Garrison, all of White Hall; censors, Dr. N. J. Bucklin, Roodhouse, and Dr. A. K. Baldwin, Carrollton.

The program for the scientific session consisted of a paper by Dr. A. K. Baldwin on the "Use of Mercurial Diuretics in Cardiac Disease." This paper was carefully prepared, brought out new and valuable points in the treatment of this class of cases, and was very thoroughly discussed by the members present. Case reports and a very interesting discussion of cases of simulated pregnancy occupied the closing hour.

To those physicians who were not present we wish to say that you missed a lively and instructive meeting. The attendance from Carrollton and White Hall was one hundred per cent. and Roodhouse only fell short because one member was sick and could not be present.

The next meeting will be held in Carrollton Friday, March 11, 1932.

W. H. Garrison, Secretary.

JOHNSON COUNTY

In Memory of our Esteemed Professional Brother:

WHEREAS, It has been the will of the Great Physician of the Universe to take from us our worthy and Esteemed Physician, Dr. G. K. Farris;

WHEREAS, The Professional relations with the Johnson County Medical Society makes it fitting for us to make an expression of our esteem for him;

Therefore Be It Resolved, That his ability and honor is held in memory by this Medical Society;

Be It Further Resolved, That the departure from the Medical Profession leaves a sadness which only a true Physician and Christian could have;

Be It Further Resolved, That we extend our deepest sympathy to the widow of the deceased;

And Be It Also Resolved, That we have a copy of these resolutions recorded in our Medical Society, that

the County paper be furnished with copy for publication and also State Medical Journal.

Johnson County Medical Society,
E. A. Veach, President,
C. D. Nobles,
Wm. Thomson.

KANE COUNTY

Members of the Kane County Medical Society culminated their annual dinner meeting and program at the Union League Club last evening by electing Dr. Leland H. Anderson, of Aurora, president of the society for 1932, to succeed Dr. H. H. West, of Elgin.

Dr. C. A. Potter, of St. Charles, was elected vice-president to succeed Dr. Charles Weller, of Aurora, and Dr. K. M. Manougian, of Elgin, was named secretary-treasurer to succeed Dr. Anderson, new president of the society. Dr. L. J. Hughes and Dr. West, both of Elgin, Dr. G. W. Haan, of Aurora, and Dr. Anderson were named delegates to the annual convention of the Illinois State Medical Society.

Members of the society and their wives gathered in the club lounge following dinner for an informal program of business and entertainment.

Dr. Marshall Davison, of Chicago, staff member of the Cook County and University hospitals, provided the lone professional keynote of the evening in remarks on the scientific theme, "Indications for Surgical Treatment of Peptic Ulcer."

Members of the Women's Auxiliary of the society had charge of the evening's entertainment features, which included well rendered selections by the LaVerdo trio composed of Miss Dorothy Roberts, 'cello; Miss Verne Wiedemann, violin, and Miss Lois Wiedemann, piano, and a group of colorful readings by Mrs. Minna Brady Lee. Auxiliary members also had charge of evening's decorations, which were of a holiday nature.

Marriages

Bernard Frazin to Miss Beatrice Minnie Hurwich, both of Chicago, October 1.

Eduard Falk Poser, Chicago, to Miss Marcia Louise Bruch of Evanston, Ill., November 7.

Frank Victor Theis to Miss Hazel Ericsson, both of Chicago, December 9.

James Winston Watts, II, of Chicago, to Miss Julia Meem Harrison of Lynchburg, Va., in October.

Personals

Dr. Frederick A. Baumgart was elected president of the newly created Danville Medical Society, and Dr. George T. Cass, secretary.

Dr. Herman N. Bundesen, health commissioner of Chicago, has resigned as coroner of Cook County.

Dr. Morris Fishbein addressed the Historical Club of the University of Illinois College of Medicine, December 2, on "The Future of Medicine."

Dr. Charles Spencer Williamson, Chicago, addressed the DeWitt County Medical Society, Clinton, November 30, on pneumonia.

The Chicago Pediatric Society was addressed, December 15, among others, by Dr. Henry E. Irish on "Effect of Cod Liver Oil-Skimmed Milk Feeding on Bones After One Year."

The Chicago Neurological Society was addressed, December 17, among others, by Dr. Isadore Pilot on "Putrid Brain Abscess—Its Pathogenesis."

Dr. Albert B. Yudelson, Chicago, addressed the Peoria City Medical Society, December 1, on "Relief of Symptoms of Tabes Dorsalis."

Dr. Samuel M. Feinberg, Chicago, addressed the Rock Island County Medical Society, December 8, on "Allergy in General Practice."

Dr. Chester H. Warfield, Chicago, addressed the Will-Grundy Counties Medical Society, December 2, on bone tumors.

Dr. Leo M. Czaja, Chicago, addressed the Adams County Medical Society, Quincy, December 14, on "Maggot Treatment of Osteomyelitis."

Dr. Plinn F. Morse, Detroit, addressed the Winnebago County Medical Society, Rockford, December 7, on bone diseases.

At the meeting of the Chicago Surgical Society, December 11, Dr. Samuel J. Fogelson, among others, spoke on "Treatment of Peptic Ulcer with Gastric Mucin."

The Chicago Society of Internal Medicine was addressed, December 14, among others, by Drs. William A. Brams and Louis N. Katz on "Nature of Fibrillation and Flutter of the Heart."

Drs. Douglas Gordon Campbell and Margaret W. Gerard have been appointed heads of the psychiatric service in the University of Chicago's Student Health Service to succeed Dr. Stewart B. Sniffen, who resigned because of ill health.

At the meeting of the Perry County Medical Society, December 3, Dr. Frank F. Maple, Chicago, spoke on "Abortion and Its Treatment," and Dr. James H. Hutton, Chicago, "Recent Advances in Endocrinology."

Drs. Bradford Lewis and Alphonse McMahon,

both of St. Louis, addressed the Sangamon County Medical Society, Springfield, December 3. on "A Survey of Urology for the General Practitioner" and "Differential Diagnosis Between Early Tuberculosis and Hyperthyroidism," respectively.

"With the creation of a new health office, that of country epidemiologist, the position of health officer of DuPage County has been discontinued. William V. Hopf, D.D.S., Lombard, who was the health officer, will assume the duties of the new office.

The Fulton County Medical Society was addressed, December 1, in Canton, by Dr. Frank E. Simpson, Chicago, on the use of radium in malignant tumors, and Dr. Paul G. Dick, Chicago, treatment of malignant conditions with X-rays; Dr. Josiah J. Moore, also of Chicago, gave a demonstration of the Canti cancer film.

Dr. A. M. Lindley is retiring after 51 years' practice in Urbana.

News Notes

—At the meeting of the Chicago Society of Allergy, December 21, Dr. Harry L. Huber, among others, spoke on "Dermatitis Due to Burweed Marsh Elder."

—The Chicago Council of Medical Women, at its meeting, December 4, was addressed by Drs. Irma Aleshire and Louise O. Kappes on "Urticaria" and "Food Allergy in Children," respectively.

—At a joint meeting of the physicians from Randolph, Perry, Monroe and Jackson counties, December 9, Dr. Robert F. Lischer, Mascoutah, spoke on "The Country Doctor," and Dr. William T. Coughlin, St. Louis, "Cancer of the Breast."

—Drs. Thomas D. Allen and Ramon Castroviejo addressed the Chicago Ophthalmological Society, December 21, on "The Autonomic Nervous System and the Eye" and "A New Knife for Ophthalmic Surgery," respectively.

The Chicago Laryngological and Otological Society was addressed, December 7, by Drs. Samuel Salinger on "Nasal Deformities—Surgical Correction"; Harry L. Pollock, "Implants—History and Use," and Alice K. Hall, "Pharyngo-Mediastinal Abscess Recovery."

—The Chicago Gynecological Society was addressed, December 18, by Drs. Milton J. Summerville and Frederick H. Falls on "A Critical Study of the Technic and Clinical Value of the Sedimentation Rate in Gynecology"; Jacob P. Greenhill, "Thymophysin and Weak Pituitary: Comparison in 40 Cases," and Richard A. Lifvendahl, "A Sign for the Detection of Small Amounts of Free Blood in the Abdomen."

—Edwin O. Jordan, Ph.D., was elected president of the Institute of Medicine of Chicago at its annual meeting, December 1; Dr. Arthur R. Elliott, vice-president; Dr. George H. Coleman, secretary, reelected; Dr. John Favill, treasurer, and Dr. Ludvig Hektoen, chairman of the board of governors. Dr. Otto L. Schmidt gave the presidential address on "The Role of Medical and Hygienic Museums in Education."

—Dr. and Mrs. William H. Wilder, Sr., have established the William H. Wilder, Jr., fellowship in neurology at the University of Chicago, in memory of their son, a student in neurology at the university, who was drowned last summer. The fellowship is to be awarded to a student of neurology nominated by the department of anatomy on recommendation of the professors in charge of neuro-anatomy and clinical neurology. Mr. Paul G. Roofe has been appointed the first recipient of this fellowship.

—Dr. Henry E. Sigerist, professor of the history of medicine and director of the Institute of the History of Medicine of the University of Leipzig, delivered four lectures under the auspices of the University of Chicago and Rush Medical College, Institute of Medicine of Chicago, Society of Medical History of Chicago, and Northwestern University. The first lecture, held December 7 at the University of Chicago, was on "Medical Literature of the Early Middle Ages"; the second, December 8, at Rush Medical College, "Medicine of the Renaissance: Fracastor, Paracelsus, Vesalius, Ambroise Paré." The latter will be the John Dodson lecture. The third, December 8, on "Problems and Methods of Historical Pathology," before the Institute of Medicine at the City Club. The last lecture, December 9, at Northwestern University, was on "The Sanctuary of Asklepios in Epidauros."

—At a meeting, December 1, the Chicago city council by an overwhelming majority approved

an ordinance which permits the mayor to name a supervisor of the pound and release unclaimed dogs to medical schools and research laboratories approved by the city health commissioner and the chief of police for experimental work in medicine. This ordinance was a substitute for one submitted by anti-vivisectionists, which would prevent the medical schools and research institutions of Chicago from obtaining animals from the pound for experimental purposes. At a hearing of the judiciary committee of the city council, November 3, the speakers in opposition to the latter ordinance included Robert Maynard Hutchins, president, University of Chicago; Drs. Anton J. Carlson, professor of physiology, University of Chicago; Andrew C. Ivy, Nathan Smith Davis, professor of physiology and professor of pharmacology, Northwestern University Medical School; David J. Davis, dean, University of Illinois College of Medicine; Louis D. Moorhead, dean, Loyola University School of Medicine, and Herman L. Kretschmer, president elect, Chicago Medical Society.

—Memorial services were held December 11 in the new College of Medicine Building of the University of Illinois, Polk and Lincoln streets, Chicago, for Dr. Daniel A. K. Steele, first dean of the college. He died last summer in Sarasota, Fla., at the age of 79.

The story of Dr. Steele's life was told by Dr. Edward Louis Heintz, who spoke as a representative of the college's alumni. He pointed out that Dr. Steele was not only the first dean of the college but was one of the founders in 1881 and a president of the College of Physicians and Surgeons of Chicago, out of which the university medical college grew.

Dr. Steele also took part in the acquisition of the Illinois School of Dentistry, which became the university dental school, and in 1914, as dean of the college of medicine, he negotiated the purchase of the old Cubs' baseball park, now the campus of the university professional schools.

Deaths

Henry Cummings Adderly, Chester, Ill.; Washington University, Medical Department, 1875; mayor of Chester ten years, physician at the prison several years; and secretary of the pension board; aged 77; died, December 8, of arteriosclerosis.

Frederick M. Doyle, Chicago; Jenner Medical College, 1903; a member of Illinois State Medical Society; aged 56; died, December 8, of embolism of coronary artery.

Nathan T. Fox, Chicago; a member of Illinois State Medical Society; aged 52; died, November 20, at Michael Reese hospital, of chronic nephritis.

William R. Grant, Easton, Ill.; Northwestern University Medical School, Chicago, 1906; member of the Illinois State Medical Society; secretary of the Mason County Medical Society for 17 years; served in the World War; aged 51; died, Nov. 22, 1931, of heart disease.

Carl Hattermann, Chicago; Rush Medical College, Chicago, 1886; member of the Illinois State Medical Society; aged 73; died, November 28, of lymphatic leukemia and gastric hemorrhage.

Edwin Augustus Kratz, Champaign, Ill.; University of Pennsylvania School of Medicine, Philadelphia, 1869; Civil War veteran; aged 87, died, November 6, of cerebral hemorrhage.

John C. McCandless, Chicago; Chicago Physio-Medical College, 1893; member of the Illinois State Medical Society; aged 66; died, November 30, of carcinoma of the bladder.

Ira H. Rea, Harbert, Mich.; Harvey Medical College, Chicago, 1898; aged, 74; formerly house physician at the Palmer House and Windsor-Clifton hotel, Chicago; died, November 28, of pneumonia.

Emil Henry Raschke, La Grange, Ill.; Hahnemann Medical College, 1906; a member of Illinois State Medical Society; aged 68; died, November 21, of chronic valvular heart disease.

William Roberts, Chenoa, Ill.; College of Physicians and Surgeons of Chicago, 1886; aged 87; died, November 9, in San Antonio, Texas, of mitral stenosis.

Ernest S. A. Sachtleben, Chicago; Chicago Homeopathic Medical College, 1889; aged 79; died, Dec. 11, 1931, in the German Deaconess Hospital, of chronic myocarditis and chronic nephritis.

Gilbert James White, Evanston, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1886; aged 74; died November 12, in Picton, Ont., Canada, of myocarditis.

Hall Whiteaker, Anna, Ill.; Barnes Medical College, St. Louis, 1893; a Fellow, A. M. A.; served during the World War; formerly member of the state legislature; aged 62; since 1925 on the staff of the Anna State Hospital, where he died, November 24, of acute myocarditis and carcinoma of the prostate.

John Thomas Wilson, Chicago; Meharry Medical College, Nashville, Tenn., 1895; aged 67; died, November 19, in the Dailey Hospital, of myocarditis and coronary sclerosis.

Willis Perry Woodard, Oak Park, Ill.; College of Physicians and Surgeons, Chicago, 1894; aged 72; died, November 22, of bronchopneumonia, cerebral hemorrhage and arteriosclerosis.

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EIGHTY-SECOND ANNUAL MEETING AT SPRINGFIELD, MAY 17, 18, 19, 1932

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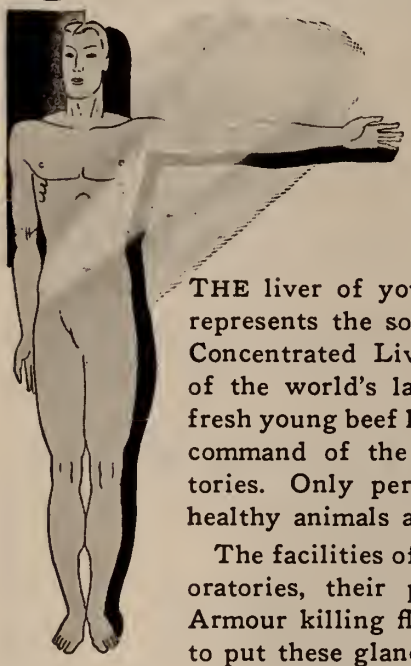
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Editorials

THE MEDICAL PROFESSION AND HOSPITALS ARE BEING STUNG TO THE TUNE OF TWENTY-FIVE MILLION DOLLARS ANNUALLY IN CARING FOR VICTIMS OF AUTOMOBILE ACCIDENTS.

Financial interest in community safety extends to every citizen. Apart from accident victims and their families and their affairs, chief economic sufferers from the continuously increasing number of highway casualties are hospitals and physicians. Employers' liability statutes practically eliminate this feature from the bulk of industrial cases. Statistics show a far larger number of automobile and motor bus accidents than industrial accidents. Yet such accidents are covered by no such elaborate system of social protection as makes it possible for physicians and hospitals to receive some return for the care of victims of industrial accidents.

Of emergency and post accident care for highway accident victims hospitals estimate that bills are uncollectable in at least forty per cent. of the cases; or, as in the case of last year's (1931) statistics, a total of $11,500,000 out of the $24,000,000 that United States hospitals estimate was the 1931 bill for hospital care of highway accident cases.

If physicians in private practice generally would compile such a report, undoubtedly the amount would be at least doubled. Hospitals and medical profession of the country are being stung to the tune of 25 millions of dollars annually as the result of emergency treatment given to victims of automobile accidents.

No hospital or physician will refuse to accept and treat emergency patients but to collect after the services given is an entire different matter.

Even when the victim is insured there is no guarantee of payment, as the risk companies are liable only to the premium payer, and it is a matter of unconcern to them whether he meets

his physicians and hospital obligations or not. Unless we intend to play the good samaritan for ever, something will have to be done to remedy the situation and insure payment for emergency medical and hospital services to the victims of automobile accidents.

Hospitals of the United States lose approximately ten million dollars per year because of unpaid bills rendered in highway accident cases, another ten million or more is lost to the medical profession because of automobile accidents.

In the face of this appalling yet veracious picture of economic waste incurred by preventable casualty and personal carelessness comes the National Safety Council with the prophecy that deaths from automobile accident in 1932 will probably proceed steadily along the rate of increase for the past few years. In 1920, deaths from motor accidents were only 12,500, or about 12 deaths per thousand, and this rate now stands at about 27 persons per thousand. In 1929 the death toll from this cause was 31,000; in 1930, 33,000, and in 1931, it ranged between 33,000 and 34,000. In this ten year period there have been at least 8,500,000 disabilities and injuries from motor accidents.

The highway or motor accident is an emergency case. As such it is received in a hospital or cared for by a private physician without stipulated fee or financial duress. More frequently than not this emergency care demands a hospital stay of from a day to months. Most frequently the patient taken unaware finds himself or herself in somewhat straitened financial circumstances and either at the mercy of an unscrupulous responsibility shirking driver or in the hands, sauve and slippery of a claim beating insurance company. The hospital will save his life and will do the job thoroughly if it can be done with x-rays, laboratory work, service of all sorts, shelter, food, laundry, care, and staff medical service. Or if the patient is not hospitalized some private practitioner takes charge and sees the man through.

But more than one doctor finds himself forgotten if the patient recovers and very much out of luck and out of pocket if the patient dies. More than one hospital has seen a patient who has been well served and tended walk out carelessly enough with bill unpaid, and insurance damages in his pocket.

In defense of the patient—before we get down to facts and figures showing how physicians and hospitals are annually mulcted out of millions of dollars through unpaid bills for emergency cases—let it be said that so great is the average patient's need for ready money that only too often he settles for an inadequate amount in a "friendly settlement." It is only a small proportion of accident victims who can afford to play the waiting game of litigation. Expecting to make a settlement with person or the organization responsible for the accident he naturally plans to pay hospital and doctor when this settlement is made. To his sorrow he soon finds that the case has gone to an insurance company for an "adjustment." It is surprising to the accident victim to discover how little the insurance company thinks in dollars and cents of his injured back or leg or head. He discovers that to get anything at all he is going to need a lawyer. Of course, the lawyer will have to be the first bill paid when a settlement is arrived at eventually, for the excellent reason that the lawyer is there on the job; has been on the job since the fact became evident that to come to any terms a suit will be necessary, and that this suit must wait its turn through the interminable mazes of an overcrowded court calendar and the delays and vexations that can arise.

Warned by the experience of others it is only natural that the accident victim shall "take the cash and let the justice go" no matter how small an amount he must accept.

Naturally, too, the average emergency patient feels that the man who hurt him should pay for the mending. He is correct in his belief. But he should realize that the hospital can make its charge for services only to those who receive them. And this holds true of the physician.

Now the bald facts are that in the end the private physician and the hospital lose about $25,000,000 annually through the direct carelessness and personal irresponsibility of the persons who cause highway accidents. Unpaid hospital bills in highway accident cases are for the most part so definite a drain upon the resources of a hospital that these have become a recognized though an unjust item in the economic problem termed by the lay public "the high cost of hospitalization."

To make hospitals and doctors the scapegoat is a crying shame. Either more drastic and

penalizing legislation fixing the rehabilitation expense for the victim of the highway accident directly upon those who have caused the injuries, and in such a way that this liability shall be unquestioned, or some definite policy for reimbursement from other sources and without added burden to the taxpayer should be devised in some equitable and competent manner. The community sooner or later has its hands full in the after care of the victims of these accidents and their families, in those instances where the disability is such as to prevent anything but partial return to the former skill as a wage earner with the resultant breaking up of homes, and increase of state dependents and semi-dependents.

In the year 1932 it is expected that at least two million persons will require emergency and after care in hospitals as a result of highway accidents with motor cars the responsible factor.

There are approximately 35,000 deaths per year in this country from automobile accidents. Also from this cause there are about 35 injured for each death recorded or a total of 2,225,000 injured. Many of these injured, of course, are not brought to hospitals.

Care of highway accident cases looms large in the total hospital service. Records of ten general hospitals selected at random show that *4.3 per cent. of all the patients treated during the year 1929 were highway accident cases and that 5.4 per cent. of the total patient days served went to the care of victims of highway accidents.*

In a number of hospitals, highway accident cases constitute a *larger* number of patients and patient days than the average for the group of hospitals indicates. In one hospital 8.1 per cent. of all patients were highway accident cases. In two others the percentages of highway accident cases were 16.5 and 16.6 per cent. of the total number, respectively. Considering patient days three hospitals recorded between 7 and 8 per cent. of their total patient days as having been rendered to highway accident cases.

Accident patients do not pay for the medical and hospital care received and are charity patients so the physicians and hospitals are penalized to the extent to which these patients are not paying for their care.

The hospital is the natural and first refuge for the victims of public highway accidents. Immediate medical and surgical aid is required and is given without hesitation. Dressings and other supplies are used, x-ray examinations are made, operations are performed, nursing care and maintenance are provided and everything is done to rehabilitate the victim of the accident.

Doctors are not mercenary and hospitals are not grasping institutions. Rarely do they question the victim's finances when life hangs in the balance, but they are confronted with the inevitable problem of making ends meet. Many of them have had the experience of a patient walking out without paying the physician's or hospital bills after collecting from the insurance company.

The National Safety Council experience indicates that there is an average of 35 accidents for every fatality.

Quoting Matthew O. Foley, *Hospital Management,* July, 1931: "In 1930, according to one very conservative estimate, the total cost of automobile accidents (exclusive of a valuation of lives lost) in the United States was $853,400,000. Hospital authorities say that approximately 12,500,000 patients are cared for in the hospitals in the United States in a year. If each patient stayed fourteen days and cost the hospital $5.00 a day, the total cost for 12,500,000 patients for 14 days would be $875,000,000.

This is approximately the same amount as is represented by a minimum estimate of cost of automobile accidents.

That the medical profession and hospitals are mulcted out of the money they are entitled to and should receive in accident cases is shown from the following.

Dr. Sidney G. Davidson in *Hospital Management,* May, 1929, says:

"The New Jersey commission appointed to study State and County aid to general hospitals in that part of the report dealing with automobile accidents showed that of the 19 hospitals studied there was a loss of $46,850 on a total bill of $106,000 or 44 per cent. for this type of patient.

Ridiculous when we think of the machinery set up for workman's compensation and then realize that there are more automobile accidents than industrial accidents and no effort made to correct this condition."

AUTO ACCIDENTS WORRY HOSPITALS

One item of the nation's automobile accident bill is the $11,500,000 which hospitals are un-

able to collect for service to victims of automobile accidents.

Hospital deficits, which exists because of free service to the indigent and poor, are swelled to large proportions by unpaid accident and liability patients.

With approximately 2,000,000 automobile accidents a year the demand on hospitals and doctors from this source are, today, at least, greater than for service to injured industrial workers.

The Ohio hospital association recently released figures showing that in that state the average cost of automobile accident patients was $5.54 per patient day. Slightly less than 50 per cent. of this cost was collected by the hospital.

The report further showed that if the accidents were evenly distributed throughout the state of Ohio 95 per cent. of the bed capacity of the institutions would be utilized solely for the care of automobile accident victims for a period of 12.6 days. This service would cost each hospital a total of $69.80 per automobile accident victim cared for, of which cost $36.30 would have to be provided by the hospital from some other source than from the patient or his friends. The average collection per patient would be $33.50.

Some plan of ways and means should be devised so that the community other than the hospital and the physician shall carry the economic hazard of highway accident.

If about 45 per cent. of these cases must be regarded as charity patients, if the dependent and those who never pay bills could be recognized at times of the accident then the natural place for them would seem to be the charity community hospital, either township, municipal or county as the conditions maintain. Since the nature of emergency service as well as the customarily overcrowded content of free hospitals ordinarily inhibits the care or assignment of the average highway accident to such institutions no blanket ruling to rush the injured to such places would adequately meet the situation to say nothing of the loss of life or impairment of rehabilitation possibilities that might ensue, irrespective of the victim's capacity and in most instances unwillingness to pay in 50 per cent. of the cases and his antagonism to a publicly supported institution, which ability, of course, it is impossible as well as inhumanitarian for any hospital to pass upon at the time the emergency treatment is demanded.

Of course, the utopian and millennial method of handling this unfortunate situation that so unjustly increases the economic burden of highway accident upon the shoulders of hospitals and doctors would be a form of insurance protecting them.

THE OLD SHEPPARD-TOWNER MATERNITY ACT IS REVIVED. BILL H. R. 7525

The old expired Sheppard-Towner Maternity Act is revived. It was reported from house committee and is due for prompt passage. It is known as (H. R. 7525).

It is designed to continue the work begun under the Sheppard-Towner Act, which by statutory limitation expired in 1929.

No hearing was given. H. R. 7525 was introduced January 12 and favorably reported by committee on Interstate and Foreign Commerce to the House on the next day, January 13.

It bribes States into State Medicine. It brings them under Federal submission. It puts a woman in as administrator.

By expiration of the old Sheppard-Towner Act, the women politicians, lobbyists and social job hunters lost its million dollars a year in salaries and travel.

One million is a big prize worth their increased efforts to regain; but State Medicine destroys, and America cannot afford to follow in the paths that led to the undoing of medicine in Russia.

The new bill has all the quackeries, trickeries and glass beads of the original pig-in-a-poke that was wished upon a gullible citizenry, and that failed to effect any discoverable reduction in maternal and infant mortality rates though it did reduce the surplus of the tax payers' purses.

The new bill is open to every objection ever raised against the original Sheppard-Towner Act. It seeks to subject intrastate health activities of the several states to federal supervision and control. It proposes to provide for all time, federal subsidies for states willing to subject their activities in the field of maternal and infant hygiene to the supervision of the Children's Bureau and above all it seeks to perpetuate the

Sheppard-Towner Act, that is not only a useless piece of legislation but one for which perpetuation is absolutely illogical.

Proponents of this legislation insisted that it would reduce what they contended was an excessively high infant and mortality rate in the United States. So they cannot complain now if mortality rates are used as a measure for the lack of success of the Sheppard-Towner Act's functioning, and its efficiency in operation.

If the act failed—as it did—to reduce such mortality rates then what excuse can be given for its resurrection and perpetuation?

The truth of the matter woud seem to be that the same reason exists for the perpetuation of Sheppard-Townerism as caused its inception, and not a pretty reason at that.

Reduced to its basic elements and exposed to the searchlight of truth Sheppard-Townerism, was, is and always will be a direct and menacing piece of socialistic legislation that neither feeds, shelters or relieves mothers or infants nor in any wise bears upon maternity relief other than to increase taxation for the purpose of delivering obstetrics more or less into lay hands and providing an increased number of good jobs for political appointees, not licensed physicians, either.

Represented by its backers and sponsors as a temporary measure to get each state interested in providing adequately for the welfare and hygiene of mothers in its own territory, now through the Jones-Cooper Act we seem about to have Sheppard-Townerism ad infinitum, ad libitum and ad nauseam. Personally we cannot see any reason at all for this perpetuation into a permanency of a measure that had been foisted upon us as an emergency relief. Also let it be noted that as soon as the Sheppard-Towner Act had expired a number of states increased their maternity appropriations, a thing they had not done during the life of the Federal Act. As soon as the Sheppard-Towner Act had expired fifteen states and the Territory of Hawaii made appropriations from their own treasuries and went about their own business at a rate that they had never done while depending upon the federal government for support. Instead of stimulating the separate states to make maternal appropriations the federal appropriations had the same effect as money from home. Continued federal subsidies will make a "remittance man" out of any state.

When thrown on their own resources the states that wanted maternity legislation and maternity benefits managed to find the money to care for this work. Sheppard-Townerism failed both to reduce maternity and infant mortality and to increase state appropriations for its upkeep.

From every angle Sheppard-Townerism would seem to have flopped. It did not reduce mortality rates, it did increase taxation, and as a stimulant to state appropriation it had no effect.

How then can its revival and its perpetuation in either H. R. 7525 the Jones-Cooper, Sheppard-Towner or in any other form have any justification?

DOCTORS SHOULD WRITE TO ALL MEMBERS OF CONGRESS FROM ILLINOIS, PROTESTING AGAINST THE PASSAGE OF H. R. 7525. THIS WILL HAVE AN IMMEDIATE INFLUENCE WITH CONGRESSMEN OF OTHER STATES

Act today. Tomorrow may be too late.

Send your communications directly to the members at Washington, D. C., care of Senate or House of Representatives. The following is the personnel from Illinois of the House and Senate:

SEVENTY-SECOND CONGRESS

Senators from Illinois:
James Hamilton Lewis, Chicago.
Otis F. Glenn, Murphysboro.
Congressmen-at-Large:
Richard Yates, Springfield.
W. H. Dieterich, Beardstown.
House of Representatives:

1. Oscar DePriest, Chicago.
2. Morton D. Hull, Chicago.
3. Edward A. Kelly, Chicago.
4. Harry P. Beam, Chicago.
5. Adolph J. Sabath, Chicago.
6. James T. Igoe, Chicago.
7. Leonard W. Schuetz, Chicago.
8. Peter C. Granata, Chicago.
9. Fred A. Britten, Chicago.
10. Carl R. Chindblom, Chicago.
11. Frank R. Reid, Aurora.
12. John T. Buckbee, Rockford.
13. William R. Johnson, Freeport.
14. John C. Allen, Monmouth.
15. Burnett M. Chiperfield, Canton.
16. William E. Hull, Peoria.
17. Homer W. Hall, Bloomington.
18. William P. Holaday, Georgetown.
19. Charles Adkins, Decatur.
20. Henry T. Rainey, Carrollton.
21. J. Earl Major, Hillsboro.
22. Charles Akarch, East St. Louis.

23. William W. Arnold, Robinson.
24. Claude V. Parsons, Golconda.
25. Kent E. Keller, Ava.

A RECAPITULATION OF THE SHEPPARD-TOWNER ACT MAY NOT BE AMISS

A bad penny turns up with all the persistency of a good man, or the annual tax bills. Which is perhaps one of the reasons why we have with us again our old enemy, at once the menace of medicine, of democracy and of true public welfare—the iniquitous Sheppard-Towner bill.

During the seven and one-half years that the Sheppard-Towner Act was in force it cost the nation about $11,000,000 in taxes, and was barren of results. This should be warning enough to a country staggering now under more taxes and especially under more unnecessary levies than precipitated revolution in France.

For the few who may be remiss as to the real status of the "Sheppard-Towner Act" in its reaction upon taxpayer and physician a brief recapitulation may not be amiss.

Concisely speaking not only does the Sheppard-Towner Maternity and Infancy Act, no matter in what guise it appears, admit state medicine into the United States and pave the way for communism; aid in turning the country into a bureaucracy and add taxes and yet more taxes upon a citizenry unable to pay even present levies, but it makes for federalization of national health and hygiene.

Now the Sheppard-Towner Maternity and Infancy Act became a law, Nov. 23, 1921. Adroitly framed, so as almost wholly to preclude the possibility of a review by the United States Supreme Court, this Act authorized the Children's Bureau in the Department of Labor to enter into agreements or compacts with such states as were willing to surrender to the federal government for monetary considerations their rights to supervise and control maternal and child hygiene. People of every state had to contribute their shares of the general fund through federal taxation. They could get none of their money back unless their state governments submitted to federal domination. So this scheme succeeded politically in that it provided for setting up an elaborate federal machine and for keeping it in operation. On June 30, 1929, by express repeal, Congress killed the Act.

It is not of record or of experience that the $11,000,000 in taxes paid by the U. S. citizenry in support of the Sheppard-Towner Act resulted in the development of a single new idea in the field of maternal and infant hygiene. Official mortality statistics reveal that not even by a fraction of a point per annum did this Act speed up the rate of decline in either infant or maternal mortality. Taken in any way the Sheppard-Towner Act was a failure. It fell down as an experiment federal administration of state affairs. What price Americanism? It fell down even harder as an experiment in infantile and maternal hygiene.

Yet this purposed revival of the Sheppard-Towner Act—albeit 'twill be but "a rose by yet another name," calls for the same old poison dressed up in another shirt. For the new plan is to make this rejuvenated Sheppard-Townerism go further and fare even better. The general taxpayer will bear the traffic aided by the medical profession. Newfangled Sheppard-Townerism will cover the entire field of hygiene for all classes of the population in all rural areas; and become a permanent part of our scheme of government. Popular demand for retrenchment in the cost of government and the desire that the federal government cease its activities in fields that belong exclusively to the states fails to influence proponents of Sheppard-Townerism. That the most patriotic duty at present is to refrain from seeking any increase in the drain on public finance is of no moment to those political jobberyists, those purblinded self seekers to whom the essence of living resolves itself into a soft job, a fat pay envelope, self-sufficiency and the world well lost.

Let it be stated authoritatively that according to President Hoover's message, page 215 Congressional Record, date of Dec. 9, 1931, three bills have already been introduced in Congress authorizing federal subsidies under the Sheppard-Towner plan. *One bill, H. R. 7525, introduced by Representative Bankhead of Alabama, has already been recommended by the Committee on Interstate and Foreign Commerce of the House of Representatives for enactment and is now on the House calendar.* Another bill of similar purport, S. 572, introduced by Senator Jones of Washington, the Senate Committee on Commerce gives a hearing February 4. These bills provide, each one of them, *for annual ap-*

propriations to enable the federal government to make to subservient states certain basic grants of money. Such amounts are arbitrarily fixed by the bills. *The government is to pay to each such state in addition a subsidy or dole equal to the amount that the state appropriates for the purposes of the bill. The amount of the allotted federal subsidy or dole that a state may receive for rural, maternal or child hygiene is to have no reference whatever to rural, maternal or infant death rates.* Neither is that amount to have any relation to the financial needs of the states. Funds collected by taxation that will be levied on *the people of rural and urban* areas alike will be used exclusively for *the benefit of the people in the rural* areas, except that money for maternal and child hygiene may be spent for the benefit of mothers and children in towns and cities having not more than fifty thousand inhabitants. These combined federal and state funds will be used for rural hygiene, or for maternal and infant hygiene, or for both, as the state elects, but only in accordance with such state-made plans as a federal board finds acceptable.

Consider, also, another beautiful angle of this exquisite communistic plan fed by exorbitant taxes from men who can hardly make both ends meet, in 50 per cent of instances let alone pay for their own medical and general maintenance.

From the judgment of that federal maternity board there will be no appeal. The board, which is to be an addition to innumerable other federal boards and commissions, will be made up of the chief of the Children's Bureau in the Department of Labor, and the chief of the Bureau of Education in the Department of Commerce, both of whom are laymen, and *only* one physician, the Surgeon General of the United States Public Health Service. The taxpayer will pay as best he can the increased cost of the federal government proposed by each of these two acts to the tune of two million dollars for the first year.

This amount is to be gradually increased until 1937, when the annual appropriations will aggregate *four million two hundred and fifty thousand dollars,* at which figure they will continue indefinitely.

Physicians are particularly interested in the effect on local health administration by such efforts to federalize the health administrations of our states. If successful such activities will exaggerate health activities in rural districts, and particularly health activities for mothers and children, at the expense of health activities in urban districts and in fields other than those of maternal and infant hygiene. Further they will tend to destroy a local sense of responsibility for health activities. Many states did not appropriate for maternal and infant hygiene up to their full financial ability until after the repeal of the Sheppard-Towner Act. Federal aid has a deadening effect on state initiative—it is only human nature. As citizens, physicians are interested with all others in the effect of proposed legislation to increase cost of government and to break down constitutional lines of demarcation between federal and state jurisdictions. Danger of federal intrusion into state administration was forcibly pointed out by the President's National Advisory Commission on Education, when it reported:

"The apparent danger that lurks in all our more recent attempts to inject the federal government into education in the local communities is that it has not always nor even generally manifested that tender regard for local modes of management which has characterized state and county cooperations with local schools. Federal agencies frequently tend to set up modes of management highly centralist in spirit and effect, wherever they have tried to work in cooperation with state-wide agencies and local boards. Their right to approve and to reject plans submitted by the states, involving details of both administration and instruction, is not in harmony with the indigenous American spirit of local and decentralized management which has always yielded certain and good results given adequate time. It is the spirit of local self-governemnt native to the American people which dominates most of our educational affairs in the forty-eight states. The centralist attitude, already apparent where the federal government touches education in the states, is felt to be contradictory to our normal ways of conducting educational affairs, and hence arouses popular distrust."—Report of the National Advisory Committee on Education, on Federal Relations to Education, Part 1, Washington, 1931, pp. 19-20.

"The matching of federal money grants, with state or local funds whether their use is for general or special educational purposes is a policy

not to be favored in the field of education."—Ibid., p. 33.

Federal subsidies for health activities fall naturally into the same category with federal subsidies for educational or for any other purposes.

Now in the proceedings of the American Medical Association under date of May, 1922, and again under date of June, 1930, this great organization *condemned federal interference through subsidies with the orderly administration of state hygiene* such as is contemplated by the pending legislation. Disruptive of local integrity in the field of health administration, such methods have been tried and failed. Insidiously they tend to bring medical activities in the states under the supervision and control of federal authorities. State, county and other medical associations and individual physicians should at once send letters and telegrams protesting against the enactment of the pending legislation that has been described, to their Senators and Representatives in Washington. Protest against such legislation should be made to the committees before which it is pending. To speak and vote against it when it comes to the Senate or to the House for action should be their promise since it is their patent duty to the men and the women who have sent them to Washington and who place in these representatives trust and who have a right, legal and vested, to expect understanding and protection.

SUBSTITUTING POLITICIANS FOR PHYSICIANS IN THE CARE OF MATERNITY AND INFANCY

When the real mothers of this country realize the whole truth about the maternity business organized by feminists and socialists who propose to substitute politicians for physicians in the care of maternity and infancy, they will arise in their might and sweep the country clean of political accouchcurs, tight rop walkers, political milkmaids and insist that the best is none too good for American mothers and babies, and refuse to tolerate longer the attempted socialization of the practice of medicine, pediatrics, obstetrics and general care of the sick in a country where even the nationalization of railroads, coal mines and water power is not dared by the same political leaders who tamely submit, against their own better judgment, to federal bills and proposed constitutional amendments to place the lives and health, labor and education of all mothers, children and youth under control of one radical lay bureaucrat at Washington, who is neither doctor, lawyer, mother nor nurse!

IRVING PARK BRANCH OF THE CHICAGO MEDICAL SOCIETY WILL GIVE MEDICAL SERVICE TO THE DESERVING POOR

At the November meeting of the Irving Park Branch of the Chicago Medical Society there was discussed ways and means of combating the effects of lay control of a free clinic functioning in the Irving branch district.

A resolution covering many phases of medical clinics operating in Chicago and adopted by the Northwest branch of the Chicago Medical Society as well as a letter received by one of the physicians in the Irving branch from an official of the tentative free clinic was read. Both the letter and the resolution provoked much argument. A committee was appointed with full power to act in behalf of the society and to devise means of forestalling the activities of the lay clinic.

The committee held several meetings. Finally it was decided that an efficient way to combat the clinic menace is for the doctors of the branch to start a clinic themselves under the auspices of organized medicine as represented by the branch society.

A branch clinic headquarters is established at 3976 Avondale avenue. A letter and return postal was sent to all members of the branch society asking each member to signify willingness to cooperate with the plan agreed upon. Seventy-five doctors promptly signed up to co-operate.

This plan provides for a doctor to be in attendance each forenoon. The clinic physician is to render such service as is possible at headquarters. Should the case require further treatment reference is made to his family physician. In case there is no family physician the patient is redirected to the clinic for further treatment.

There is a social worker in daily attendance to investigate all applicants for free service.

Arrangements were made with the druggists of the Irving Park branch. The Chicago Retail Druggist Association agrees to furnish medicine at cost where the patient is unable to pay.

These druggists were instructed to send bills to the officers of the Irving Park branch who have agreed to reimburse the druggist.

Dentists of the Northwest Side branch are co-operating with the doctors of this section of the city.

The Central Registry for Nurses co-operates to the extent of sending out a nurse each day gratis.

The branch is divided into sections. Doctors listed in each division are to take care of house calls providing the patient has no regular physician. The question of hospitalization has been taken care of. All the hospitals in the district have agreed to co-operate.

COUNTY MEDICAL SOCIETIES CAN CONDUCT THEIR OWN CRIPPLED CHILDREN'S CLINICS

For a number of years, many Lay Organizations desiring to do some philanthropic health work, have sponsored the conducting of Crippled Children's Clinics in many parts of the Country, and in Illinois particularly. It is quite evident that any form of clinics not directly under supervision of the Medical Profession cannot be the factor for good in the community, that they should be to serve the proper interests satisfactorily.

We believe that practical tests over a period of years are sufficient to convince the most sanguine, that Medical Societies in any Community can conduct their own Clinics, giving the best possible service available to those needing it. The Warren County (Illinois) Medical Society, is just starting its sixth year of Crippled Children's Clinics, and the plan of operation of this successful clinic, is worthy of the attention of other Societies.

The clinic is held regularly, at the City Hospital in Monmouth. All of the Hospital authorities are interested in the welfare of this community, and cooperate thoroughly with the local Medical Society to see that there is no lost time, and no overlapping of effort in arranging, and conducting the clinics.

All patients are received at the Hospital, entered properly on the records, and given a number, which is not changed in succeeding clinics. The records are kept in cumulative form, each patient's records being kept in the files in a separate folder. This folder contains the history of the case, a report of the original examination, and the recommendations of the clinician. At succeeding clinics, these records are ready for the clinician, with a report of the follow-up services, and eventually, a complete record of the case as seen at subsequent clinics, is a part of this cumulative record. One copy of the record is given to the family physician of each case, one copy retained on file at the hospital, and a third copy is given to the visiting nurses. Two nurses, a County nurse, and Welfare Nurse a few days following each clinic, call at the home of the patients, to be sure that the instructions given, were understood, and later, carried out. This is a most important feature of this routine. The Warren County Medical Society has used the same clinician for all of these clinics, and with the system which has been gradually established, it is possible to see twice as many patients now, in a day, as were seen in the earlier clinics. The family physician of each case is urged to be present, and hear the advice given to the parents, so that they will be able to give a thorough cooperation, for the best interests of the patient.

It is not difficult to convince the people of the community, that all clinics should be conducted entirely under the supervision of medically trained people, in order that they may receive the maximum benefit. How can the necessary financial assistance for clinics of this sort be arranged? For several years, it has been the custom in Warren County, for a local Lodge to sponsor "The Annual Charity Ball," the receipts to be used for the crippled children's work. Sufficient funds have been received to more than pay all expenses, and give a decent working fund for future use.

What has been done in Warren County, through the efforts of the local County Medical Society, can likewise be done in other counties in Illinois. It is our opinion that all other clinics can be arranged along similar lines, so that it will not be necessary for any Lay Organization in Illinois to assume leadership in the conduct of any type of clinics in the near future.

THE DEPRESSION HAS INCREASED THE FINANCIAL BURDENS OF HOSPITALS

The depression, instead of making it possible for hospitals to reduce their rates, has increased their financial burden, members of the Chicago

Hospital association held at its January meeting in Chicago. They explained that while the Cook County hospital and charity wards have been overcrowded during the last year, the so-called private hospitals have had their beds only 58 per cent occupied, due to inability of patients to pay for hospitalization.

A reduction of rates is impossible, the representatives present held. Some of them pointed out that in providing increased services at no increase in rates the hospitals have in effect reduced rates during the last ten years.

The association passed a resolution in support of the American Hospital association's plan for cooperating with veterans' organizations for convenient hospitalization of world war veterans at low cost.

ACTIVITIES OF THE WOMAN'S AUXILIARY, ILLINOIS STATE MEDICAL SOCIETY

Randolph County—Mrs. C. O. Boynton, President of Randolph County Auxiliary and also Councillor for the 10th District is an outstanding leader in auxiliary activities. This County Auxiliary hold their meetings in conjunction with the Medical Society, in the various cities.

The October meeting was held in Sparta, home of Dr. and Mrs. C. O. Boynton, with Dr. J. Curtis Lyter of St. Louis the guest speaker on "Diagnosis and Treatment of Diseases of the Heart."

December meeting went to Chester, when Dr. Lischer of Mascoutah, Ill., gave his famous address—"The Country Doctor." Steeleville will entertain the auxiliary in February, when legislative program study will be resumed.

St. Clair County—This County auxiliary is one of the youngest in the State, yet they report excellent progress, and now have a membership of 50. Thirty-two members attended meeting January 7th at East St. Louis, with Mrs. James J. Dunahue as the principal speaker. She selected her subjects from articles appearing in Hygeia, i. e., "Colds," "Mischievous Children" and "New Noses for Old."

Sangamon County—Interesting and instructive meetings is the keynote of this County's programs. Here are a few examples:

Oct. 16—"What a Doctor's Wife Can Do to Help Her Husband," by Dr. Lena K. Sadler, Chicago.

Nov. 20—"An Interpretation of Medical Ethics—The Doctor, How Did He Get That Way—Why the Doctor Does Not Behave Like a Human Being." This was interestingly and humorously presented by Dr. James P. Simonds, Northwestern University."

Jan. 15.—"Health Insurance," by Mr. A. M. Simons, Professor of Economics, Chicago.

March—"A Layman's Interpretation of the Medical Profession in Community Health Work."

Mrs. David H. McCarthy of Springfield reports that the local auxiliary is working with the State Officers to make interesting and pleasant plans for their guests during the Illinois State Medical Society Convention this year in Springfield.

Cook County—A decisive move to put "Hygeia" before the public has been inaugurated in this County (Chicago Central Branch). A fund has been subscribed from the treasury to finance yearly subscriptions, to be placed in the most strategic points, in public places (Libraries, Reading Rooms, etc.) where interest may be stimulated. Jointly with the placing of this magazine, two articles by Dr. Andrew C. Ivy will be placed, "On Animal Experimentation" and "What Science Has Done for the Dog," thus endeavoring to combat spreading mis-information.

Each month a lecturer of note has been their guest speaker. During 1931-32 they were fortunate in having the following:

Dr. John R. Harger, President Chicago Medical Society, on "Problems of the Auxiliary."

Dr. Arthur J. Cramp, "Pink Pills for Pale People."

Dr. George B. Lake, "Mental Health."

Dr. Andrew C. Ivy, "Animal Experimentation."

Coles-Cumberland Counties—Our President, Mrs. T. O. Freeman, is hard at work in her own local auxiliary. On October 16, 1931, she entertained the Coles-Cumberland County Medical Society and Auxiliary at her home in Mattoon. Dr. G. B. Dudley of Charleston gave an interesting talk on auxiliary and medical society work, followed by musical numbers and travelogue.

Business meeting of Coles-Cumberland Auxiliary was held on January 7, 1932, at Charleston,

at which time the officers for 1932 were elected as follows: Mrs. G. B. Dudley, Mrs. C. D. Swickard, Vice President; Mrs. E. E. Richardson, Secretary, and Mrs. W. R. Rhodes, Treasurer. Mrs. N. C. Iknayan presented program.

Vermilion County—This County auxiliary holds meetings each month having a variety of programs, i. e., Christmas party, illustrated lecture on Elephant Hunt, and for February Dr. W. E. McGavren will relate his experiences as a Medical Missionary in India.

Newly elected officers for Vermilion County are: Mrs. B. M. Jewell, President; Mrs. R. E. Montfort, Vice President; Mesdames A. E. Sistler, O. Michael, Warren Smith, Solomon Jones, E. G. Williams.

The State Program Chairman, Mrs. N. C. Iknayan, Charleston, Ill., has sent out to all county auxiliaries a symposium on articles which have appeared recently in current magazines with the suggestion that these subjects be read by the auxiliary membership. This is a very fine suggestion for monthly programs and has the endorsement and approval of our State President, Mrs. T. O. Freeman.

Special attention is called to the December, 1931, issue of the American Medical Association Bulletin, pages 234, 35, 36, 37, listing activities of various auxiliaries throughout the United States.

The Woman's Auxiliary, Illinois State Medical Society, held a meeting of the Board of Directors in Chicago, January 26, 1932, at the Medical and Dental Arts Club.

MAKE HOTEL RESERVATIONS EARLY—ANNUAL MEETING

Springfield is pleasurably awaiting the meeting of the Illinois Medical Society on May 17, 18, 19, 1932. Springfield is a city of national historical interest, which every Illinoisan and American should give at least one appreciative visit, and May is a delightful month in which to do this.

Hotel reservations should be made as soon as possible to avoid a last minute rush. Rooms can be had at varying prices, from the de luxe accommodations of the larger hotels, to those of the smaller, quieter, and less expensive hostelries. There is ample space for all and every purse can be suited.

The Committee on Hotel Accommodations will gladly co-operate in any way possible to make your Medical Week a success and pleasure.

It is keenly hoped that members will bring their wives and families along. The women of the Auxiliary of the Medical Society are planning a hearty welcome for the ladies and will exert themselves in every way to make this visit one to be remembered.

The Sangamon County Medical Society and their Ladies' Auxiliary also join in sending an urgent invitation to you, Dr. and Mrs. Physician, to come to Springfield for this Medical Meeting, on May 17, 18, 19, 1932, to visit us and to visit our town, the home of Abraham Lincoln, and the Capitol of your State.

Send your reservations direct to the hotels.

HOTEL RATES

Abraham Lincoln Hotel	150 rooms	$3.00 to $7.00
St. Nicholas Hotel	350 rooms	2.00 to 6.00
New Leland Hotel	150 rooms	1.75 to 7.00
Illinois Hotel	60 rooms	1.25 to 2.50

There are other hotels, which are smaller but comfortable.

GOLF TOURNAMENT AT ANNUAL MEETING

"There will be a golf tournament at the annual meeting for interested doctors on Tuesday morning, May 17, 932. We would like to have every county represented in the tournament. County Secretaries or individual golfers may write to Dr. F. P. Cowdin, Chairman, Golf Tournament Committee, 320½ South Fifth St., Springfield."

TWO NEW COMPONENT COUNTY SOCIETIES HAVE BEEN ORGANIZED

The Hardin County Medical Society has been organized with the following officers:

President—L. D. Dusch, Golconda.

Vice-President, J. O. Hart, Elizabethtown.

Secretary-Treasurer—J. R. DeVelling, Rosiclare.

This Society has not previously been organiz- and they have seven charter members and hope to hape one or two more within a short time.

KNOX COUNTY MEDICAL SOCIETY REORGANIZED

The Knox County Medical Society was reorganized on January 8, 1932, after their petition for a charter was approved by the Council on January 6. The physicians of Knox County having submitted all data required by the Council in due form has received on this date, January 18, 1932, a charter as a component society of the Illinois State Medical Society. The new Knox County Medical Society has a charter membership of 42. We have therefore added two component societies to the list of county medical societies in Illinois.

Dr. C. S. Bower was elected President; Dr. George E. Maley, Vice-president and Dr. Louis N. Tate, Secretary.

CHICAGO MEDICAL SOCIETY DISAPPROVES OF ANY DIRECT OR INDIRECT ASSOCIATION OF ITS MEMBERS WITH ANY PERSON, FIRM OR CORPORATION, ENGAGED IN THE ILLEGAL PRACTICE OF MEDICINE.

At the meeting of the council of the Chicago Medical Society, January 12, 1932, the following resolution introduced by Dr. G. W. Post was adopted:

Whereas, Section two of the Medical Practice Act of Illinois declares "No person shall practice medicine or any of its branches, or midwifery, or any system or method of treating human ailments without the use of drugs or medicines and without operative surgery, without a valid, existing license so to do."

Section Three: No person except as otherwise provided in this Act, shall hereafter receive such a license unless he shall pass an examination of his qualifications therefor, and

Whereas, Section Sixteen provides that the license of a physician may be revoked or suspended for a number of reasons, among which one designated as No. 10 declares professional connection or association with, or lending one's name to another for the illegal practice by another of the treatment of human ailments as a business, or professional connection or association with any person, firm or corporation, holding himself, themselves, or itself out in any manner contrary to this Act," and

Whereas, Section Four of Chapter Two of the Principles of Medical Ethics declares: "Solicitation of patients by physicians as individuals, or collectively in groups by whatsoever name these be called, or by institutions or organizations, whether by circulars or advertisements, or by personal communications, is unprofessional," and

Whereas, Section Six of Chapter Four declares: "It is unprofessional for a physician to assist unqualified persons to evade legal restrictions governing the practice of medicine," and

Whereas, it appears from the foregoing from the Medical Practice Act of Illinois and from the Principles of Medical Ethics that a corporation cannot engage legally in the treatment of human ailments, and that it is highly improper for a physician to associate himself with any corporation in the practice of medicine as a business.

Therefore Be It Resolved, that the Council of the Chicago Medical Society hereby announces and declares that it does not now approve nor has it ever given its approval to any direct or indirect association of its members with any person, firm, or corporation, engaged in the illegal practice of medicine, and

Be It Further Resolved, that no action of the Council can rightfully be interpreted by anyone as appearing to give such approval, and

Be It Further Resolved, that any member of the Chicago Medical Society who may directly or indirectly lend encouragement to or permit the use of his name in connection with any form of illegal practice of medicine, does so at his own peril.

MEDICAL SERVICE ON INSTALMENTS

Dr. George B. Lake, managing editor of *Clinical Medicine & Surgery,* in a recent issue makes comment on the economic problem paying for medical service as follows:

Whether one thinks it is a good thing or not, the installment system of buying (euphemistically known as "purchasing out of income") seems to be, not merely here to stay, but growing steadily and rapidly.

When the manufacturers of more or less expensive luxuries and near-luxuries found that their capacity for production exceeded the demand, something had to be done to stimulate the demand, and the installment plan is the result. One can now buy anything from groceries to garages on "easy payments," and the sale of

automobiles, radios, pianos, vacuum cleaners, furniture and hundreds of other things is, in consequence, much easier and more brisk than it otherwise would have been. Moreover, people do not howl about the expense as they would if it were necessary to plank down the entire sum in one roll.

But the manufacturers could not afford to maintain a clerical staff sufficient to look after all of the details of thousands of installment accounts, so the acceptance companies came into being to handle these matters.

The principle of the thing is this: The purchaser of a radio, for instance, makes a down payment of $25 on a $125 machine and signs ten notes for $10 each, payable one a month, plus a reasonable interest. The dealer indorses the notes, takes them to the acceptance company and receives their face value, less ten or fifteen per cent. or thereabouts, at once. The company collects the payments.

Of course, credit ratings are looked up all around, and equally of course, the dealer sets the price of the instrument at a figure which includes his discount. The buyer pays a little more, but coming in small driblets, it doesn't seem so hard. Everybody is happy.

One reason why so much fuss is being made about the costs of medical service is that people are, or have been, expected to write a check for the entire amount when it was demanded. If they could budget this expense after it is incurred, instead of before, much of the outcry would die away.

An operation at $200 looks formidable to a patient of small or moderate income; but $50 down and ten payments of $15 each sounds reasonable to him. The surgeon receives $175 to $185 for his services at once, and has no trouble or expense in collecting his balance.

Of course, illness and automobiles are not quite in the same class. If a man comes down with pneumonia or breaks an arm the physician he calls hardly has time, in many cases, to look up his credit rating before ministering to his needs. But the time to get a settlement for services is when they are rendered. When the case is discharged the bill should be presented. If the patient can not pay it the installment plan of settlement should be suggested immediately. Many patients would welcome a method by which they could settle with the doctor promptly.

Operations of election are, in a sense, luxuries and should be financed at leisure. All chronic cases should be accepted for treatment on a flat-rate basis and financed in advance. Physicians have much to learn from the big business men.

Such services are not, at present, available everywhere, but things look as if they would be in the not distant future. The speed with which they come will depend largely upon the way the proposition is received by medical men. Any such proposition should, however, be scrutinized with great care because, to be safe and successful, such an enterprise must be strongly financed and honestly and intelligently managed. Many physicians have lost money by becoming mixed up with fly-by-night financial concerns.

We suggest that every one who has an opportunity to do so should look into this matter as soon as practicable and should consider how the plan can be adapted to his needs. It would appear that this may be a solution for many of the doctor's most pressing economic problems.

OUR STATE SOCIETY LEGAL COUNSEL —A CANDIDATE FOR GOVERNOR

Francis X. Busch, attorney for the Illinois State Medical Society and Chicago Medical Socienty is a candidate before the primaries for Governor on the Democratic ticket.

Mr. Busch has practiced law in Chicago since 1901; has been a professor and Dean of the De Paul University Law School since 1912; has been Dean emeritis since 1923; master in chancery, circuit court, Cook County, 1920-1922.

Mr. Busch was attorney for the Board of Election Commissioners 1922-1923; corporation counsel of Chicago, 1923-1927; President Chicago Bar Association, 1929-1930; temporary corporation counsel and permanent counsel to the present mayor's advisory commission, and author of many law books.

Mr. Busch formulated the anti-religious plank at the last National Democratic convention. He has never held an elective office, but has held positions of trust in the most satisfactory manner. This should recommend him highly under the present existing regime of economic political disaster.

Mr. Busch has served the medical society in the most efficient manner. His presence in a law suit usually means success for his client.

NATIONAL LEGISLATION ON MEDICINAL LIQUOR

The Journal of the A. M. A., January 23, 1932, comments editorially on legislation on medicinal liquor as follows:

The arbitrary and unreasonable limitations on the medicinal use of alcohol and alcoholic liquor, now imposed by the National Prohibition Act and supplementary legislation, will be removed if the bill (S. 3090) recently introduced by Senator Copeland at the request of the American Medical Association is enacted. Its enactment will make effective, too, the unanimous recommendation of the Wickersham Commission that the limitations of which the medical profession complained be removed. The bill, prepared by the Bureau of Legal Medicine and Legislation under instructions from the House of Delegates, was introduced by Senator Copeland, January 18. It proposes that the present specific quantitative limitations be removed and that the law provide only that a prescription be not given for more liquor than is necessary to supply the patient's medicinal needs. To discourage persons from attempting to obtain medicinal liquor through subterfuge, with a view to converting it to beverage uses, the bill proposes to make it unlawful for any person, by any false statement or representation, to induce any physician to prescribe liquor when it is not medicinally necessary or in excess of the quantity medicinally needed. If this bill is passed, the limitation on the number of prescription blanks that may be issued to a physician will be removed.

The Secretary of the Treasury and the Attorney General are to continue as at present to issue such regulations as are necessary for the enforcement of the law, but the bill provides that no limit shall be imposed by any such regulation on the number of prescription blanks a physician may obtain or the number of prescriptions he may write, or on the quantity of liquor he may prescribe to any one patient. The confidential relations between physician and patient are to be insured by providing that no physician shall be called on to file any statement, in any office of the government, of the ailment from which his patient is suffering, or to keep his records in such a way as to lead to the disclosure of of such ailments, except that he may be required to disclose such information in court or in course of hearings held under the National Prohibition Act or to disclose it to duly qualified persons engaged in the execution and enforcement of the act.

The enactment of this bill will enable physicians to employ alcohol and alcoholic liquor medicinally in such doses as are therapeutically indicated, instead of being limited to a dosage arbitrarily fixed by statute. It will protect professional secrecy. It will thus remove the principal grounds for resentment against the national prohibition laws that so many physicians feel in the practice of their profession. Whether it is or is not enacted will depend largely on the activity of the medical profession throughout the country in making known their desires with respect to the matter. In the Senate, the bill that has been introduced has been referred to the Committee on the Judiciary, of which Senator George W. Norris of Nebraska is chairman. It is expected that a companion bill will be promptly introduced in the House of Representatives and be referred to the Committee on the Judiciary, of which Representative Hatton W. Sumners of Texas is chairman. Letters and telegrams urging the enactment of such legislation should be promptly forwarded to the chairmen of the committees named and to the Senators and Representatives from the states and districts in which the senders of such telegrams reside.

VITAMIN D CERTIFIED MILK ON CHICAGO MARKET

The Chicago Medical Society Milk Commission will place a Vitamin D Certified Milk on the Chicago market, February 1st.

We believe this to be a definite forward step in milk production. This milk will contain 150 rat units of vitamin D to the quart which corresponds to the vitamin content of 15 cc. of cod liver oil or ten units of Viosterol.

Researches by Steenbock at the University of of Wisconsin and Alfred Hess at Columbia have demonstrated that the feeding of a proper amount of irradiated yeast to cows, results in the production of milk containing the amount of vitamin D quoted above.

The control work necessary for the guarantee of this milk will be done by the Wisconsin Alumni Research Foundation.

Experiments have been made to determine the effectiveness of this milk upon infants and white rats. At Wisconsin, rats so rickety that they were unable to walk without wobbling recovered completely when this milk was added to their diet.

Dr. Hess supervised the feeding of 102 infants and reported that the vitamin D Certified Milk not only prevented rickets but cured cases already developed.

Edwin Wyman of Boston showed by x-ray studies that the vitamin D milk brought about a change from rachitic to normal bone growth.

SOCIAL INSURANCE IS CONTRARY TO THE FUNDAMENTAL PRINCIPLES OF DEMOCRATIC GOVERNMENT*

All forms of Social Insurance are contrary to the spirit of democratic government. They destroy individual incentive, initiative and self-reliance. They substitute paternalistic control for independence of thought and action. We pride and congratulate ourselves on living under a democratic form of government but most of us fail to realize that we are slowly but surely drifting away from the true democratic spirit in government—that we are gradually substituting a hybrid form of government—a cross between bureaucracy and socialism. Personally, I am a firm believer in democracy and believe that many of our present ills are the direct result of already having deviated too far from the fundamental principles of democracy.

Individual responsibility is the foundation of democratic government. If a nation does not educate its citizens to individual responsibility, it will soon have no one capable of assuming public responsibility. Slowly through the ages the common man has risen from chattel slavery and serfdom to independence, freedom and personal liberty, and now some well-meaning but misguided people want to undo all this. They want to enslave him again, making him in fact a bondsman of the state. Organized society is forever forging new chains with which to shackle the free development of its members. It is forever meddling with the private affairs of its citizens. One of the best illustrations of this statement is found in a recent survey of the Citizens' Bureau of Milwaukee which found that that city is engaged in approximately three hundred different functions, one-fifth of which have been added during the last sixteen years. Milwaukee is no worse in this respect than many other cities in this country. Add to this the activities of the county, state and federal governments, and we find an explanation of the following fact: "In a period in which the population of the United States has increased ten per cent. the number of persons holding civil office has increased forty per cent. and the amount paid in salaries has increased one hundred and fifty per cent." Thirty years ago one person in every forty-five was in government employ, while now one in every twelve is so employed.

"It is a profound mystery why the people of the present generation should so violently run after the very things their forefathers so violently ran away from in 1776. One of the chief indictments of King George set forth in the Declaration of Independence reads: 'He has erected a multitude of new offices and sent hither swams of officers to harass our people and eat out their substance.' "

In a recent article, Dr. Harry Emmerson Fosdick makes a statement that seems particularly suitable in this connection. He, said "Many of those in society who are dissatisfied with present conditions know what they want to get away from, but they do not know whither they are going." I would add "nor do they seem to have any clear idea as to what they want." Before we adopt new laws we should make reasonably sure that such laws will not introduce new and greater evils than they are expected to cure, that they can actually be enforced, and that they are not likely to be abused in their administration.

A far-reaching innovation such as Social Insurance must be viewed from many angles. We must consider its effect upon the general public, the insured, the employer, and the medical and dental professions.

If we are deliberately trying to get away from the democratic form of government having a definite objective in view; and if we are reasonably certain that the goal for which we are headed is worth while and is going to result in general social and economic betterment, an experiment with Social insurance might be justified, but, even then, it is well to carefully weigh and consider what the

*Second installment of Ochsner's articles on Medical Economics.

wise founders of our government had to say on this important subject. I quote from the Declaration of Independence, "Prudence, indeed, would dictate that government long established should not be changed for light and transient reasons." If we a nation are just aimlessly drifting, as we seem to be, we are almost sure to get into serious trouble. We believe that we shall be able to show conclusively, in future articles, that in those countries in which it has had prolonged and extensive trial it actually has had serious consequences. These latter problems will be taken up in subsequent articles.

CHAULMOOGRA OIL IN THE TREATMENT OF CHRONIC ARTHRITIS

In the *New Orleans Medical & Surgical Journal,* September, 1931, Dr. McIlherny reports a series of thirty-nine cases treated with Chaulmoogra oil.

When the report was made thirty-nine cases had been discharged from the hospital and nine cases were still under treatment. Report covered cases of atrophic, hyperthropic and mixed forms. Every patient showed improvement, many complete relief of symptoms and restoration of function and other arrestment of the disease and reduction of deformity. No patient was admitted to the hospital with a return of the condition. The Johansen formula was used, consisting of benzocaine 0.2 gm., olive oil, 10 c. c., crude Chaulmoogra oil (P. D. & Co.), 90 c. c. Five c. c. are injected into the deltoid and eight c. c. into the buttock, alternatively. Injections are given bi-weekly. The oil, preferable in enteric capsules of 1.6 c. c. each, is also given by mouth three times a day. Improvement is usually apparent during the second week.

THE EVILS OF MEDICAL SOCIALISM IN ENGLAND

The A. M. A. Journal London letter, November 7, 1931, has the following comments on the "Evils of Medical Socialism." We quote:

"The scheme of the British Medical Association for a national medical service that would provide treatment for every class and cover the whole field of preventive and curative medicine was described in a previous letter (THE JOURNAL, May 17, 1930, p. 1612). After the crushing defeat of the socialists in the general election and with the stringent economy and over-taxation rendered necessary by their prodigal expenditure, such extension of the medical socialism of the insurance act is not to be feared for the present. In an address to the Windsor and District Medical Society, Sir Ernst Graham-Little, dermatologist and member of parliament for London University, criticized the association's scheme. He said that it would perpetuate and indeed aggravate the radical defect of the present insurance act—the restriction of insurance benefits to what was described in the act 'as general practitioner treatment.' This was one of the principal reasons for the dissatisfaction of the insured with the service supplied. Sir Arthur Newsholme, formerly principal medical officer to the local government board, obviously no unfriendly critic, described that service in a recent address as 'representing in many ways an obsolete ideal of medicine.' The drastic reduction of the capitation fee of panel physicians has been described in previous letters. The medical profession had been able to meet this cut with something like equanimity, because panel practice was not the sole resource of the majority of practitioners. 'The problem of the out-patient at the voluntary hospitals' had arisen. Partly as the result of dissatisfaction of insured persons with the national insurance service, the number of out-patients at all the hospitals throughout the country has risen continuously during the last decade, and the remarkable position has come about that, notwithstanding a health insurance involving compulsory contributions and therefore no expense on receiving treatment, which was confidently expected to deplete our out-patient departments, the attendance has risen continuously since 1920 until it now exceeds the figure before the act came into operation. The suggestion that the hospitals should receive only such patients as were countenanced by physicians acting under the orders of the British Medical Association was a complete misapprehension of the situation. As the expenses of the hospitals were met by the general public, such an assumption of authority would not recommend itself to those who supported the institutions who were now largely the working classes themselves."

AN INSURANCE PLAN OF BENEFITS vs. A HOSPITAL PLAN OF BENEFITS FOR EX-SOLDIERS OF THE UNITED STATES

H. H. Shoulders, M.D.
NASHVILLE, TENN.

When the World War ended, the government of the United States set about making provisions for the care of all the soldiers who had suffered disabilities of any kind during their military service. Hospitals were acquired or erected in sufficient number and size to accommodate the hospital needs of all such veterans. As time went on, a large number of these veterans either recovered, died or reached a state of improvement that a hospital could be of no further benefit. For these reasons, in 1924 a large percentage of the beds in veterans' hospitals were vacant. Then it was that the Congress enacted an amendment to the World War Veterans' Act, known as paragraph 202-10. It provided that veterans with certain specified forms of disability, not of service origin, would be admitted free of charge to veterans' hospitals so long as beds were available.

In 1926, two years later, paragraph 202-10 was amended, and among other things the amendment said, in substance, that all veterans will be admitted to veterans' hospitals, free of charge, *without regard to the nature or origin of their disabilities.* This is a short sentence with enormous meaning. It means that every veteran of every military conflict since and including the Spanish American War has access to a veterans' hospital and free transportation to such hospitals, without regard ot the nature or origin of his disability, provided his disability requires hospitalization. Thus was inaugurated a new policy on the part of the Federal Government toward its ex-soldiers. This is the provision of the World War Veterans' Act that is under discussion.

Since 1926, the Congress has appropriated several millions of dollars for the erection of new hospitals and the enlargement of old ones. The last short session of Congress alone appropriated $16,350,000 for this purpose.

In 1930, approximately 70 percent of the admissions to veterans' hospitals were for disabilities that were not of service origin.

As of March 31, 1931, there were fifty-three veterans' hospitals in operation having a standard bed capacity of 25,930.

Thus the new policy toward veterans with nonservice connected disabilities was inaugurated, and thus the program of hospital construction has been launched.

The medical council of the veterans' bureau has estimated that the maximum number of beds needed will be 129,859 on the assumption that veterans of all wars are given a mandatory right to hospitalization. The consummation of this plan would involve the construction of about 103,000 beds in addition to the 25,920 already built. The construction program, therefore, is only 20 per cent complete. It obviously would require years of time and the appropriation of many millions of dollars to complete the construction program.

The average cost of constructing veterans' hospitals is approximately $3,500 per bed. The average cost of the professional staff is $151.56 per year per bed. The cost of miantaining these hospitals in 1930 was $4.42 per bed per day, or $1,613.30 per year per bed. The cost of completing the construction program alone would amount to over $360,000,000. The cost of the professional staff would amount to over $19,000,000 per year, when completed. The cost of maintenance, when completed, would be about $200,000,000 per year. These are not all. The cost of equipment and the cost of transportation of veterans to and from the hospitals cannot be even approximately estimated.

This is the program that we have proposed should be stopped. We have not suggested the arrest of the program, however, without offering a substitute plan that would be more equitable and satisfactory to veterans, far less expensive to administer and far less destructive in its effects on the whole system of medical and hospital practice in this country.

Our proposition is that the government of the United States issue to each veteran a disability insurance policy with two benefit provisions: (1) a weekly cash benefit payable to the veteran during any period of total disability, and (2) the payment of a liberal hospital benefit sufficient to cover the hospital expenses during any period of hospitalization. The hospital benefit is in addition to the cash benefit.

It is intended that every veteran who is benefited under the provisions of paragraph 202-10 should receive such a disability insurance policy. It is further intended that these benefits shall be payable for nonservice connected disabilities only.

There is nothing in the provision of this plan that would interfere with any other benefit any veteran is receiving, whether from a service connected disability or a nonservice connected disability. It is intended that this particular form of benefit take the place of those benefits provided for in paragraph 202-10 of the World War Veterans' Act, as amended, nothing more, nothing less.

THE COST OF THE PLAN

In order to arrive at an approximate estimate of the costs of administering the benefits provided for in the resolution in which the insurance plan was proposed, it was necessary first to establish the amount of the weekly cash benefit and the amount of the weekly hospital benefit. It is also necessary to estimate the number of weeks of disability that veterans will experience. For the purpose of making these computations, the amount of $20 is set up as the weekly cash benefit and the amount of $20 is set up as the weekly hospital benefit. For the purpose of estimating the number of weeks of disability veterans will experience, the cooperation of a capable actuary was obtained, who is Mr. W. H. McBride, of the National Life and Accident Insurance Company, Nashville, Tenn. His company does business in thirty-eight states. It is one of the large industrial companies in this country

insuring men and women, white and colored. Their disability experience is slightly over one week per year per person.

Fisher estimates one week of disability per year per person in industrial groups. Other disability insurance companies experience disability rates that are less than these.

Veterans of the World War as a group should be excellent risks for disability insurance, for several reasons: 1. They are all men. 2. They stood a rigid physical examination in 1917 and 1918. 3. The service connected disabilities of veterans are eliminated from the insurance plan. It must be remembered that all veterans who developed tuberculosis prior to 1925 are service connected on tuberculosis and draw benefits as such. For these reasons and others that might be mentioned, veterans of the World War should not experience a rate of disability in excess of the average for this country for a similar age group. A disability rate of one week per year per man is a liberal estimate for the ex-soldiers of the United States.

Assuming there are 4,000,000 veterans still living, the cost of the two benefits for the first year would be as follows:

Wekly cash benefits to veterans	$80,000,000
Hospital benefits to veterans	8,000,000
Cost of administration	4,400,000
Total	$92,400,000

The amount of the hospital benefit is based on the assumption that hospitalization would be required for 10 per cent of the weeks of disability. That again is a liberal estimate. A majority of the illnesses of men do not require hospitalization, and conditions that do require hospitalization do not require hospital care for the entire period of disability. For example, a man is operated on for acute appendicitis. He is confined in a hospital for a week or ten days, but he is disabled for a period of six weeks. The weeks of disability requiring hospitalization then should not be in excess of 10 per cent of the total weeks of disability.

The cost of administration is estimated to be 5 per cent of the total benefits. That again is a liberal estimate. It will be borne in mind that there are no selling costs in this plan, no agency fees, no taxes, no profits, no postage, etc., all of which items consume a large percentage of the premiums paid insurance companies by policy holders. The cost of passing on the validity of claims by the Veterans' Bureau would be the only cost of consequence involved. That organization exists already and must continue for the administration of other laws. In fact, it would cost more to make examinations of veterans to determine the need of hospitalization under the hospital plan than it would cost to determine the question of total *disability* under the insurance plan.

I have gone into some detail in reference to these matters to show that the figures and estimates are not fiction at all. They are the results of careful analysis.

The cost of maintaining the hospitals under the hospital plan, to say nothing of other costs when completed, would be more than double the cost of the insurance plan the first year.

The rate of disability in an age group corresponding to veterans of the World War will diminish each year. The cost of administration will diminish accordingly. The disability rate will diminish at a rapid rate until the veterans attain 60 years of age. There are no reliable data on which to base an estimate of the disability rate to be expected from those who attain an age beyond 60 years.

The insurance plan, when enacted, can provide for its termination as veterans attain that age, or it can be continued. I see no reason why it should not be continued until the death of the veteran. A majority of veterans will not attain age 60. Those who do can draw under the insurance plan if and when disabled. Those who are hale and hearty at age 70 would not draw.

THE ADMINISTRATION OF THE VETERANS' HOSPITAL PLAN

The policy of administering the veterans' hospitals at the present time is as follows:

When a veteran is taken ill, he calls his family physician. The family physician suggests that he should go to a hospital. The veteran says he wants to go to a veterans' hospital where he can have all his services free. He then makes application to the Veterans' Bureau of his state for hospitalization. The Veterans' Bureau then makes an examination of the veteran to determine as to whether or not he needs hospitalization. If it is determined that hospitalization is needed, the bureau takes steps to locate an available bed, and when the available bed is located arrangements are made to send the veteran to the hospital. He is admitted and remains in the hospital until discharged. His expenses are paid to and from the hospital.

THE ADMINISTRATION OF THE INSURANCE PLAN

Under the insurance plan the same veteran is ill from the same condition. The family physician is called and suggests the need of hospitalization. The physician makes a report of the illness to the Veterans' Bureau of his state on a form provided. The veteran immediately selects the civilian hospital in his community that he prefers to go to, and is admitted. He selects the type of service in the hospital he prefers. He remains under the care of the physician of his own selection. When hospital service is no longer needed for his condition, he is discharged to convalesce under home surroundings. The moment his disability begins, his weekly cash benefit begins. It ceases when his total disability ceases. His hospital benefit begins on the day of admission to a hospital. It ends on the day of his discharge. The Veterans' Bureau instead of making an examination to determine the need of hospitalization makes an investigation to determine the question of total disability.

In short, the insurance plan of benefits would be administered just as any insurance benefit is administered. The officials of the Veterans' Bureau acting as the agents of the government.

A COMPARATIVE STATEMENT OF THE BENEFITS UNDER THE TWO PLANS

Under the insurance plan, the benefits are available to every veteran the moment it is enacted into a law. The veterans will not wait for the completion of an enormous hospital construction program.

Under the hospital plan, the benefit will not be available to all veterans until a sufficient number of hospitals have been built to accommodate all their needs, and then will benefit only those who need hospitalization and can avail themselves of it.

The insurance plan is of equal benefit to every veteran. The veteran who resides in the most remote section of this country, far removed from a veterans' hospital, receives his benefit during a period of disability just the same as the veteran who resides next door to a veterans' hospital.

The hospital benefits are of unequal benefit to veterans because the benefits are available to the veterans who live near hospitals and not available to those who live at a distance. It sometimes seems to me that those who have planned the benefits for veterans that have been enacted into law, assume that all veterans live in large cities. They seem to forget that there are veterans in every civil district in the United States.

Under the insurance plan, the veteran who is disabled draws a cash benefit when disabled from a cause that does not require hospitalization. The moment he leaves his job on account of disability his income ceases, but his cash benefit begins.

The hospital plan is of benefit only to the veteran whose condition requires hospitalization.

Under the insurance plan, the weekly cash benefit of the veteran can be applied to the support of his family while he is confined in a hospital.

Under the hospital plan, the family receives no government benefit while the veteran is confined in a hospital. If the veteran is indigent, his family is dependent on community charity or, as in many cases, on the welfare committee of the local legion post.

The insurance plan is economical to administer in that government organizations already in existence can administer the law and the veterans receive the full benefit of every dollar spent by the government, except a small percentage that is required to cover the cost of administration.

Under the hospital plan of benefits, all of the money spent by the government goes into the cost of construction, the cost of hospital equipment, the cost of hospital administration, the cost of transporting veterans to and from the veterans' hospitals and the salaries of a large personnel, etc. The veterans would never get their hands on one single dime of that enormous amount of money.

Under the insurance plan, the veteran takes his benefits and applies them to his needs when disabled.

Under the insurance plan of benefits, when the last ned of the last veteran has been served this plan of benefits will automatically end. There will be no buildings or equipments to be abandoned, and no large group of employees to be discharged.

Under the hospital plan, when the need for such an enormous number of beds has disappeared the hospitals will remain open with vacant beds at enormous costs, or the buildings and equipments would be abandoned and the personnel disbanded, or the policy of administration might be altered so as to admit all federal employees, or the families of veterans, or the general public, etc., and thus fix such a hospital program as a part of the federal government.

One need not for one moment assume that such a hospital program would be abandoned if it is ever completed. It would continue, its costs would multiply and its end would never be seen. Its political influence would be too large.

The adoption of the insurance plan would have the effect of lifting every indigent and disabled veteran out of every charity hospital in America in one day. It would take the name of every indigent and disabled veteran off the charity list of community agencies. It would take every disabled and indigent veteran off of the backs of the welfare committees of every local legion post, and so one might go on indefinitely.

In making plans for the benefit of groups of people, it is necessary to understand something of their needs and circumstances.

It has been estimated that about 60 per cent of the veterans of the World War are wage earners who are unable to finance themselves when disabled. Just think of the veterans who are tenants on farms at the present time, who are unable to finance an illness and who are not inclined to travel a long distance to a veterans' hospital, even though its services are free. Apply the insurance plan to any group you care to and the result is the same regardless of where they live. The moment a veteran is overtaken by disability from any cause that is not service connected his most urgent economic needs are met.

A question that will arise often is this: Who will pay the doctor under the insurance plan? The answer to this question is simple. The veteran himself will pay his doctor if he is able to pay. If he is unable to pay, his doctor will do the work just as he is doing today, as charity. This plan was not offered as a benefit for doctors. It was inspired by an interest in veterans.

If a veteran is on an economic scale above that of a wage earner, he can at little cost carry additional insurance that will meet all his costs of illness, or he can meet such costs out of his savings.

Many disability insurance contracts written by standard companies have a clause that provides a specified sum for medical and surgical fees. Such a provision was left out of this plan, intentionally, and if it is written into it, it will be done by others and not by doctors.

I might also state that the veteran pays for his care under the hospital plan in the event the illness does not require hospitalization, or in the event he cannot go or does not want to go to a veterans' hospital. By and large, a majority of disabled veterans at the present time receive no benefit under the hospital plan, and a large percentage would not receive any benefits under the hospital plan when completed.

Just think for a moment of the more prevalent illnesses and injuries that cause total disability. First on the list is acute influenza. Hospitalization is not necessary in a vast majority of such cases. The hospitals are of no benefit to them. The most prevalent cause of injury is automobile accidents. Such cases are emergencies; the patients are sent to the nearest hospital. The veterans' hospitals are of limited benefit to them. Of the acute surgical conditions, acute appendicitis is the most prevalent. It is an emergency—delay and long travel is fatal. The hospital plan is of benefit in few such cases, and so on. The veterans' hospital plan is of the most benefit in chronic cases.

An important question to be determined is this: Are there sufficient civilian hospitals already built to accommodate all the needs of all the veterans in addition to civilian needs? The answer is emphatically "Yes."

The construction of hospitals in the United States has gone forward in the last ten years at a rapid pace. There is a hospital located in every important center of population in the United States. One can hardly think of a region, however remote, where a man would be one hundred miles distant from a hospital, and over most of the territory of the United States there is a hospital within fifty miles of most any given point.

A recent survey made by the American Medical Association shows there were 120,786 vacant beds in general hospitals in the United States in 1930. In addition to this, there was a daily average of 58,615 vacant beds in special hospitals.

The construction of veterans' hospitals is not necessary on account of the lack of a sufficient number of hospital beds.

A FEW QUESTIONS

The balance of this brief discussion will be devoted to the consideration of several specific questions that have been raised.

One of the first questions raised was this: What will happen to the veterans' hospitals already in operation if the insurance plan should be enacted by Congress?

The answer is very simple. It would have no effect at all on the structure or personnel of these veterans' hospitals. It would affect the policy of their administration *only so far as veterans with nonservice connected disabilities are concerned.*

Veterans would be admitted free of charge for disabilities that are service connected. Veterans would not be admitted, free of charge, for disabilities that are not service connected. The veterans' hospitals could admit such veterans on a pay basis. The rate charged such veterans could be equal to the hospital benefit provided for in the disability insurance policy. By such an arrangement the veterans themselves would elect as to whether they go to a veterans' hospital or not.

This point should be made clear. The resolution in which the plan under discussion was proposed calls for the abandonment of a policy. It does not call for the abandonment of hosital buildings. The policy referred to is that which provides free hospital, medical and surgical service for veterans with nonservice connected disabilities (paragraph 202-10 as amended).

Another question is one raised by doctors. Some one suggested that this insurance plan of benefits is a species of state medicine. It is not at all. Every plan of state medicine has in it two features: (1) a plan of financing, and (2) a plan for rendering the professional service—in which plan the state is given some degree of dictatorial power over the patient in the selection of his physician. For example, the hospital plan of the veterans' bureau at present is an example of absolute state medicine. It is financed by the government, and the patients accept the services of whatever doctors the government places in charge of them.

The plan proposed in the resolution relates to financing only. The veteran is given complete liberty in choosing his physician and his hospital. There is no interference with that relationship that we insist should exist between doctor and patient for the best results.

Men still misinterpret the relationship of the veteran with a service connected disability to the insurance plan. His relationship is simply this: he has been given certain benefits by reason of a certain disability that is due to service (a service connected disability). The plan interferes with those benefits in no way at all. The insurance plan would come into use should another disability arise that is not service connected. For example, a man received an injury to the left leg during service, for which disability he is drawing compensation. If his right leg is fractured in an automobile accident, then he would draw the benefits provided for in the insurance plan.

Another question is with reference to insurance companies. It has been suggested that they would oppose the adoption of this plan. This can be answered so far as the largest company in Tennessee is concerned. A member of the committee of Post No. 5 at Nashville, which was appointed to consider the plan, submitted our plan to the insurance company for an opinion on that very point. The answer of that company was that the officers would not oppose the adoption of the plan.

It will be recalled that the war risk insurance that soldiers bought (were compelled to buy) during the war has had no ill effect on the sale of life insurance, but on the contrary has stimulated the sale in rural communities in which life insurance likely never would have been sold in large volume but for a demonstration of its benefits.

Just here I might say that the war risk insurance was operated at a profit. Those of you who still have the insurance in force know something of the dividends that are paid on those policies.

A question frequently raised is with reference to the cost of administering the benefits under the insurance plan. Some have seriously questioned the accuracy of the figures submitted and others have said, even Director Hines of the Veterans' Bureau, that the cost of every benefit provided for veterans so far has far exceeded their estimates. Well, no wonder. Look at the forms of benefit. Many of the benefits so far provided are varying amounts of money to the veterans for varying degrees of partial disability. For example, a man

who has a permanent partial disability of 25 per cent will draw $12.50 per month, and so on. There are no accurate data as a basis for estimating the cost of such benefits, no previous experience on which to base estimates of costs. Actuaries who estimated the cost of war risk insurance made accurate estimates based on previous experience. The cost has been less than estimated. This is the only benefit that has cost less than preliminary estimates.

I insist the same is true with reference to this disability insurance plan. The estimates are by men who know, based on large experience extending over many years. On the basis of such estimates, large insurance companies conduct a profitable business. Think of what would happen to the Metropolitan Life Insurance Company if its estimates were all wrong.

Under the plan we propose there is no selling cost, no profit, no taxes, not even the cost of postage. The only costs are the net cost of the two specific benefits and the overhead cost of administration. Again large disability insurance companies know how much it costs to investigate each claim. You would be surprised to know how little it is. At any rate, the 5 per cent of the benefits allowed for the cost of administration in my calculation is a liberal estimate, based again on experience.

Wild statements as to the enormous cost of administering the insurance plan of benefits for veterans must not be allowed to go by unchallenged. In some instances they are made in ignorance but perfect sincerity, and again they are made by those opposed to the adoption of the plan in order to frighten us, the veterans and the Congress into abandoning the thought of its adoption.

Another question often put by men who now understand the plan is "why would veterans oppose its adoption?" The answer to this question is simple, too. In the first place there is a small minority in the American Legion that determines its policies. Many of the men in this small group are drawing salaries under the existing system. They are committed to the hospital plan. They have had much to do in planning all the benefits that have been enacted into law. The rank and file of veterans who are busy with private affairs have not informed themselves. We must awaken those veterans who have taken no interest in legion affairs beyond that of paying dues and stimulate them to make some analysis of their leaders.

Another question is: Why should doctors be so interested? Are they looking out for number one? Are they seeking a financial benefit for themselves? The answer is "No." We are seeking something far greater than that. *We are seeking to preserve a great American institution.* There has grown up in this democracy of ours, as a part of it, a system of medical and hospital practice based on democratic principles. In that system the patient has a right to select the doctor who attends him. He selects the one in whom he places a confidence. The doctor, on the other hand, is privileged to attend those who wish his services. A doctor who acquires a superior ability is rewarded by a larger patronage. There is no element of political preferment in it. There is no element of political intrigue in it. There is no government red tape in it. The doctor who renders poor service is not protected by a civil service regulation. It corresponds in principle to our democracy. It is in perfect harmony with it.

That system of medicine affords the highest type of professional service to the public to be had in any country on earth, bar none. That system *is the American institution we would preserve.* We would hand it on down. For the benefit of doctors? No. For the benefit of mankind, veterans and nonveterans alike.

We hold that no nation, no age, no group of men, not even the medical profession, holds a title of ownership to the science of medicine. We believe that the profession of medicine has earnd the right to a trusteeship only. We have in the past so conducted ourselves toward that science as to warrant the confidence of the public in such a trusteeship.

We sincerely believe, yes, we know from what has happened in other parts of the world, that when that system of medicine is broken up and supplanted by a bureaucratic distatorship the whole service will deteriorate.

EDUCATIONAL COMMITTEE

December, 1931, and January, 1932

SPEAKERS' BUREAU

86—Lay meetings were addressed by speakers scheduled through the Educational Committee:

45—Of these appointments were in Cook County.

41—Downstate counties.

Groups Represented

Churches, Parent Teacher Associations, Women's Clubs, Young Mothers' Clubs, Rotary, Kiwanis, Lions, Y. M. C. A., Hospital staffs and nurses, public meetings, Business and Professional Women's Clubs, District Meetings of Women's Clubs.

Subjects Discussed

Mental Hygiene, Cost of Medical Care, Cancer, Sex Hygiene, Health and Safety, Health as a Business Asset, Health in Illinois, Normal Development of the Child, Understanding the Adolescent, X-Ray and Radium, Preventive Medicine, Legal Medicine, Diphtheria Immunization, Animal Experimentation, Skin Infections, Parents Responsibility to the Child, Health Problems Common to the Veterinary and Public Health Professions, Serums and Vaccines, Your Weight, The Medical Practice Act, Science and Superstition, Socialized Medicine.

Reports Received

"It was one of the finest health talks ever given. The general expression about the meet-

ing was one of appreciation of the lecture. The speaker through his fine choice of words, earnestness and interest in his subject, gave a very convincing lecture. The time passed too quickly for everyone. Various ones expressed a hope that he might return sometime for another lecture."

"Very interesting, humorous, and well delivered."

"A very interesting speaker, presenting valuable facts for consideration. Showed the vast amount of authoritative suggestions for young mothers in the rearing of their children."

"One of the most interesting speakers we have ever had. The audience was especially pleased with the question the doctor answered. I had more favorable comments on this speaker than any you have sent to us before and we thank you so much. I can't say enough good things about this lecture."

RADIO

88—Radio talks were given over stations WJJD and WGN. These were given by members of the Chicago Medical Society. Speakers and Subjects:

Daniel H. Levinthal—Posture.
Davis H. Pardoll—Menace of Social Diseases.
Thomas D. Allen—Dangers that Steal our Sight.
Homer K. Nicoll—Why Your Child Should Be Vacinnated.
A. W. Stillians—The Aging Skin.
George W. Scupham—Some Blood Vessel Diseases of the Extremities.
Lester E. Garrison.
Coleman G. Buford—Goiter in Children.
L. J. Goodman—Prenatal Care.
Garwood C. Richardson—Prenatal Care, Your Baby's Safeguard.
Charles J. Drueck—Focal Infections.
Jacob D. Mayer—So-Called Indigestion.
Charles E. Pope—Hemorrhoids.
W. J. Potts—Acute Appendicitis in Children.
Percival Bailey—Tumors of the Brain.
A. N. Moore—Periodic Health Examinations.
Arthur J. Atkinson—The Irritable Bowel.
Frederick R. Schmidt—Your Skin in Winter.
L. M. Marley—Tonsil Disease.
J. Allen Weiss—The Significance of Ear Noises.
Samuel M. Feinberg—Winter Asthma.
Philip Lewin—Infantile Paralysis.
Leon M. Beilin—Economic Aspect and Control of Social Disease.
L. D. Snorf—Colitis.
Gilbert H. Marquardt—Rheumatism.
Herbert Ratner—Skin Eruptions Due to Household Articles.
John D. Koucky—Varicose Veins.
Hillier Baker—Cancer of the Breast.
Harry Jackson—Skull Fractures.
G. W. Nethercut—Cataracts.
Clement L. Martin—Rectal Diseases.
Jacob Meyer—Your Stomach in Health and Disease.
F. L. Heck—The Rational Diet.

Reports have come from Illinois, Iowa, Indiana, Michigan, Wisconsin and Minnesota about these radio programs.

PRESS SERVICE

1,545—Releases were sent out during the two months:

859—Regular press service—this includes the health articles, which are sent to newspapers in the state for publication over the signature of local county medical society or Illinois State. Medical Society.

In addition to the many counties downstate making use of this health column, the following newspapers in Cook County carry the health education articles:

Oakland Outlook.
Home News.
North West News.
North West Ledger.
North West Town Bulletin.
Southtown Economist.
Suburban Star.
Jewish Daily Forward.

50—Releases about Madison County Medical Society.
4—Articles on Measles released to Cass County newspapers.
8—Releases on Scarlet Fever to Christian County.
22—Releases on Chickenpox and Scarlet Fever to La Salle County.
9—Releases on Scarlet Fever to Macon County.
54—Monthly Service—articles sent to newspapers using a health column once a month.
69—Newspapers, re meeting McLean County Medical Society.
53—re meeting Peoria City Medical Society.
57—re meeting Schuyler, McDonough, Fulton County Medical Societies.
36—re meeting Perry County Medical Society.
165—re meetings LaSalle County Medical Society.
86—re open meeting Chicago Medical Society.
6—re meetings of Chicago Medical Society and Special Societies, Chamber of Commerce.
67—Community newspapers, re meetings Branch Societies, Chicago Medical Society.

Community newspapers of Cook County receiving these notices are:

Oak Parker.
Oak Leaves.
Calumet Index.
Calumet Record (2 branches).
Daily Calumet (2 branches).
South End Reporter.
Jewish Daily Forward.
Garfieldian (3 branches).
West Town News (3 branches).
Oakland Outlook.

Southtown Economist (2 branches).
Liberty Bell.
Review.
Suburban Star.
Hyde Park Herald (2 branches).
Woodlawn News.
Southside Courier.
Park Extra.
The Norwester (2 branches).
Irving Park News.
Myers Publishing Co. (4 newspapers).
North Shore News.
Northcenter News.
Lincoln-Belmont Booster (2 branches).
Home News.
North West News.
North West Topics.
North West Town Bulletin.
Logan Square Herald.

Twenty-three health articles were written and approved.

The Educational Committee supplied material for publication in the first Child Health Magazine of the Chicago Herald and Examiner, which came out in connection with the Sunday, January 17, issue.

SCIENTIFIC SERVICE COMMITTEE

18—Scientific talks were arranged by the Committee.

Marshall Davison—Surgical paper—Kane County.

James H. Hutton—Recent Advances in Endocrinology—Perry County.

Frank F. Maple—Abortion and Its Treatment—Perry County.

Frank E. Simpson—Radium Treatment in Malignancy—Will-Grundy County.

M. F. Arbuckle of St. Louis—Sinus Disease—Jackson County.

Gaza DeTakats—Treatment of Varcose Veins—Will-Grundy County.

Emil Hauser—Low Back Pain—LaSalle County.

Roswell T. Petit—Recent Advances in Deep X-Ray Therapy—LaSalle County.

Archibald Hoyne—Immunization—LaSalle County.

Maximilian Kern—Non-Surgical Types of Goiter—Rock Island.

Hugo R. Rony—Obesity and Leanness—Will-Grundy County.

Lowell D. Snorf—The Stomach—Paris Hospital Staff.

David S. Hillis—The Management of the Labor Case—Paris Hospital Staff.

Edward J. Stieglitz—Certain Aspects of Arterial Hypertension—Will-Grundy County.

J. R. Ballinger—Medical-Legal Aspects of Medicine—Elgin.

Walter R. Fischer—Foot Problems—Will-Grundy County.

Sidney H. Easton—Orthopedics—Fulton, Schuyler, McDonough Counties.

W. H. Nadler—Diabetes—Fulton, Schuyler, McDonough Counties.

MISCELLANEOUS

Jasper County—Sent material on all phases of child health to be used during a county-wide child health program sponsored by the county medical society.

American Medical Association—Secured information for the Bureau of Investigation.

Illinois State Medical Society Committee on Medical Advertising—Secretary of Educational Committee secured reports from all state societies on medical advertising and followed up the leads.

State Department of Public Health—Committee secured cooperation of Chicago Pediatric Society in preparing follow-up letters to the series of prenatal letters used by the State Department of Health. Two of these letters are completed—"Immunization Against Smallpox and Diphtheria" and "Breast Feeding"—and the third, on "Signs of Illness in the Baby," is now being written. These were submitted to the Educational Committee before release to the State Department of Health.

The first letter in the series, prepared with the help of the Committee, appeared in the Decembr Public Health Nursing Journal.

Marshall Field & Company—Cooperated in a series of talks to young mothers. Speakers were suggested by the Committee to present the following subjects:

Some aspects of modern infant care.
Importance of Prenatal care.
Effect of Parents' attitude on infant's health and behavior.
Importance of Nursing the Baby.
Weaning the Baby—The Why and What of Supplementary Feeding.
Establishment of Proper Eating Habits.
Importance of Regular Health Habits, How to Establish Them.
The Environment and the Emotional Development of the Child.

LaSalle County Medical Society—Notices were mimeographed and sent both months to about 375 physicians.

Woman's Auxiliary to State and Cook County Medical Societies—Mimeographed study outlines and wrote letters to presidents and secretaries. Mimeographed notices for members.

State Society Committee on Medical Economics—Educational Committee secured material and outlines on the Cost of Medical Education and the Income of Physicians.

Special folders on health subjects compiled and sent to physicians.

Y. M. C. A.—Films secured for Wilson Avenue Y. M. C. A. and Englewood Y. M. C. A., Chicago.

Extension Department of the University of Illinois—Sought assistance of Committee in revising examination blank used for 4-H Clubs.

Minnesota Secretaries' Conference—Addressed by Dr. Harold M. Camp, who was asked to talk about the work of the Educational Committee of the Illinois State Medical Society.

Florida State Medical Society—Recently appointed an

educational committee. "This committee is not functioning for one month or one year, but it is laying the ground work for functioning on a much larger scale for some years in the future. At present, we are doing the ground work, and literally re-writing and fitting articles to our own Florida needs from articles that have been previously used, largely by the Illinois State Medical Society." The Educational Committee of the Illinois State Medical Society sent numerous articles to the Committee in Florida.

Respectfully submitted,

JEAN McARTHUR, Secretary.

ILLINOIS INSANE AND FEEBLE-MINDED POPULATION

The following table shows the population of all of the State institutions in the Department of Public Welfare on December 1, 1931, and comparison with December 1, 1930:

	—Inmates and Pupils Present—			
Institution	This Date	Year Ago	In-crease	De-crease
Elgin State Hospital	3,643	3,571	72	....
Kankakee State Hospital	3,621	4,028	....	407
Jacksonville State Hospital	3,203	3,139	64	....
Anna State Hospital	1,913	1,924	....	11
East Moline State Hospital	1,824	1,805	19	....
Peoria State Hospital	2,609	2,667	....	58
Chester State Hospital	448	413	35	....
Chicago State Hospital	3,767	3,574	193	....
Alton State Hospital	1,435	1,415	20	....
Manteno State Hospital	833	....	833	....
Insane Group	23,296	22,536	760	....
Dixon State Hospital—				
Insane	469	491	....	22
Epileptic	567	545	22	....
Feebleminded	1,970	1,841	129	....
Lincoln State School and Colony	2,967	2,753	214	....
Illinois School for the Deaf	547	506	41	....
Illinois School for the Blind	245	235	10	....
Industl. Home for the Blind	92	90	2	....
Illinois Soldiers' and Sailors' Home	717	669	48	....
Soldiers' Widows' Home of Illinois	113	113	....	....
Illinois Soldiers' and Sailors' Children's School	705	664	41	....
Illinois Eye and Ear Infirmary	167	144	23	....
Research and Educational Hospital	224	152	72	....
Surgical Institute for Crippled Children	27	....	27	....
St. Charles School for Boys	684	811	....	127
State Training School for Girls	523	529	....	6
Illinois State Penitentiary	4,585	4,421	164	....
Southern Illinois Penitentiary	2,316	2,169	147	....
Illinois Women's Prison	95	140	....	45
State Reformatory for Women	116	4	112	....
Illinois State Reformatory	2,675	2,366	309	....
State Farm for Misdemeanants	607	553	54	....
Total	43,707	41,732	1,975	....

COD LIVER OIL HAS A VIGOROUS RIVAL

A new product, having sixty times the Vitamin A potency of cod liver oil and equal in antirachitic potency to Viosterol 250 D has been announced.

This product is Haliver Oil with Viosterol 250 D.

Haliver Oil is a result of extensive research by Abbott Laboratories and Parke Davis & Co., in which virtually every known source of this essential food factor was investigated. When the discovery was made that halibut liver oil appeared to have a far greater content of Vitamin A than cod liver oil or any other known fish liver oil, experimental supplies were obtained. After an extensive series of bio-assays, it was found that the Vitamin A potency is as a rule 100 to 125 that of cod liver oil and that its natural D content is usually 25 times greater than that of cod liver oil. A natural source as rich as this is almost certain to play an important role in nutrition and health.

In Haliver Oil with Viosterol 250 D, the halibut liver oil has been adjusted to a Vitamin A potency 60 times that of high grade cod liver oil in order that the convenient dose of 10 drops (3 minims) may equal that of 3 teaspoonfuls of cod liver oil. By supplementing its natural Vitamin D content with Viosterol, the antirachitic potency has been increased to equal that of Viosterol 250 D.

This discovery is of vast significance to the medical profession and is destined to play an important role in everyday practice. No longer will it be necessary to give large doses of cod liver oil which is so often "hard to take." Haliver Oil, because of the comparatively small doses employed, is neither nauseating nor inclined to cause gastric distress.

EXAMINATION BY THE AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next written examination of the American Board of Obstetrics and Gynecology will be held in nineteen different cities of the United States and Canada at 2 p. m. on Saturday, March 26, 1932. The general, oral and clinical examination will be held in New Orleans on Tuesday, May 10, 1932, immediately preceding the meeting of the American Medical Association. Reduced railroad fares will be available. For detailed information and application blanks apply to the secretary, Dr. Paul Titus, 1015 Highland Building, Pittsburgh, Pennsylvania.

NATIONAL TUBERCULOSIS ASSOCIATION

The Program

Pathological Section.....
.....Dr. David T. Smith, Durham, N. C., Chairman

Clinical Section .....
.....Dr. James J. Waring, Denver, Col., Chairman

Sociological Section .....
.....Dr. J. L. Pomeroy, Los Angeles, Cal., Chairman

Administrative Section .....
.....Mr. H. M. Cass, Huron, S. D., Chairman

SOME SPECIAL FEATURES

A Special Symposium; "Technique of Blood-Cell Count in Diagnosis."

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(For further information write the National Tuberculosis Association, 450 Seventh Ave., New York City.)

28TH ANNUAL MEETING

NATIONAL TUBERCULOSIS ASSOCIATION,

Hotel Antlers Colorado Springs, Col.

June 6, 7, 8 and 9, 1932.

DIAGNOSTIC CLINIC

For more than a year the staff of the Michael Reese Hospital has offered to physicians in the Chicago district a complete diagnostic service for patients of moderate means. This service was instituted with the idea of serving individuals of moderate means who have clinically obscure conditions or who require multiple consultations and laboratory examinations, and cannot afford individual specialists' fees. The service includes all laboratory work and medical consultations at a moderate fee. During the year the service has been tested, and it is believed that it has been of real value to the physicians who have availed themselves of it. It is now possible to offer the facilities of the Diagnostic Clinic to physicians located anywhere in the State of Illinois, and it is the purpose of this pamphlet to furnish the members of the Illinois State Medical Society with some details of the organization.

STAFF

The staff of the Diagnostic Clinic is composed of internists, surgeons and specialists who are members of attending and associate rank on the regular staff of the hospital. They are assigned to each case by rotation.

FEE

The minimum flat fee is $30.00. This covers all necessary consultations, laboratory work including electrocardiogram and basal metabolism, but excepting X-ray; X-ray charges vary from a minimum of $5.00 to a maximum of $10.00. Patients will be hospitalized only when this is necessary because of their physical condition, to facilitate the investigation or at the special request of the physician or patient. The rate for two to four-bed room accommodations is $3.50 per day and is an additional charge. All fees are payable in advance.

This clinic is designated to function expressly as a diagnostic aid to the practicing physician.

No therapy is practiced.

No patients are accepted unless referred by a physician.

Upon completion of the clinical investigation all facts are correlated and the findings and diagnosis together with therapeutic advice are submitted to the referring physician. The patient is returned to the referring physician for the report and for subsequent treatment.

In order to avoid delay and inconvenience it is highly advisable that a definite appointment be obtained before the patient arrives. For information or appointment write to Admitting Department, Michael Reese Hospital, or call Calumet 5540, extension 550.

Correspondence

ANENT DOCTOR SHOULDERS A. M. A. WAR VETERANS HOSPITALIZATION RESOLUTION

Chicago, Illinois,
January 29, 1932.

Dear Doctor Whalen:

At the June (1931) Session of the American Medical Association at Philadelphia a Resolution was adopted. This Resolution was introduced by Dr. H. H. Shoulders, of Nashville, Tenn., and has since been referred to as the "Shoulders' Resolution." The Resolution advocated the substitution of an insurance plan of benefits to ex-servicemen for the present building plan of the Veterans' Bureau.

In the Resolution it was provided "that the proper officers of this Association be instructed to approach the officers of The American Legion with the view of securing the adoption of the policy above set forth as a part of the legislative program of The American Legion," and further provided "that each State Medical Association be requested to form a committee whose duty it will be to approach the State and Legion Posts throughout the country with a view to securing the adoption of this program by them."

I believe that Illinois has always been in the front rank of organized medicine in the protection of the economic rights of its members. I call your attention to the fact that in January, 1931, at the meeting of the State Council of the Illinois Medical Society a Contact Committee of the society with The American Legion was formed. The Committee consisted of myself as Chairman with Dr. John S. Nagel, of Chicago, and Colonel Charles Center of Quincy as members. In February, 1931, the Council of the Chicago Medical Society authorized the appointment of a Contact Committee with The American Legion to represent that organization and Dr. Henry J. Way was appointed Chairman with

Dr. Maurice L. Blatt and myself as members. All members of this Committee are members of The Chicago Medical Post of The American Legion.

At a meeting of the Executive Committee of The American Legion in the Spring of 1931 Dr. F. O. Frederickson, Past State President of the Illinois State Medical Society, and then Department Surgeon of the American Legion, Department of Illinois, introduced and succeeded in passing a Resolution authorizing the organization of the Medical Commission of The American Legion. This Commission to consist of a physician representing each Post, District, County and Division; in other words carrying an organization similar to the plan of the State Department of The American Legion.

This Medical Commission of The Legion held a meeting in Peoria shortly after the Philadelphia meeting of the American Medical Association. The Contact Committee of the State Society was represented at that meeting. The Shoulders' Resolution was one of the questions discussed.

At the time the Shoulders' Resolution was published in The Bulletin of the A. M. A. it appeared to me to be an inconsistent policy for organized medicine on the one hand to fight the establishment of government bureaus and on the other advocate the establishment of a Bureau of Disability Insurance; it appeared inconsistent to decry state medicine and then advocate state disability insurance.

To me the passage of a Resolution as important as this was and then call on The American Legion to adopt is as a feature of its legislative program was both illogical and inconsistent. I believe the officers of the A. M. A. should have approached the officers of The American Legion before the Resolution was adopted and the two organizations working together could have agreed on a plan that both the A. M. A. and The Legion could get behind.

My experience with The Legion in the Contact Committees of organized medicine has been that the officials of The Legion will listen and look for guidance in medical matters from the established medical societies. The only information The Legion has been furnished until these Contact Committees in Illinois were meeting with them was that the A. M. A. was opposed to the building of more government hospitals and the reasons appeared to them indefinite.

In our Committees we are pointing out to The Legion the fallacy of supporting a plan that calls for the erection of hospitals to cost $900,000,000. The idea has been implanted into the members of The Legion that this wonderful expansion is to make it possible for ex-servicemen to receive hospital care without expense under the provisions of 202-10. Nothing is ever said to the ex-servicemen that this enormous building plan with the hundreds of millions for maintainance comes out of the taxpayers of the country and that every ex-serviceman is a taxpayer directly or indirectly; nothing is said to them about the waiting for admittance to these hospitals and the fact that the personal interest of their family physicians is lost. They are never told that the local hospitals found in all communities can render them the same service if given the opportunity. They are never told the danger of transportation in acute conditions and the mental anguish of being separated from their families or the expense added to the family if the ex-serviceman is accompanied by his family.

I believe the passing of the Shoulders' Resolution was more important from the fact that it aroused the interest of the average physician to the dangers of the vast expansion plan of hospital biulding and maintenance. I believe the final outcome will be a modification of the Shoulders' Plan which will give the ex-serviceman the opportunity of selecting his own physician and of being cared for in the already established local hospital where his own physician is personally as well as professionally interested in his recovery. I feel that a modification such as his suggested will get the backing of The Legion and in Illinois that means 80,000 members. I know that the Chairman of the Legion Rehabilitation Committee, Past State Commander Edward Hayes of Decatur, has always been friendly to the interests of the medical profession and I know that he wants to see the best service rendered to the ex-serviceman.

At the May Meeting of the Illinois State Medical Society in Springfield there will be a luncheon meeting of physicians who are ex-servicemen. That meeting will be addressed by Col. Hugh Scott, Manager of Hines Hospital, Dr. H. H. Shoulders of Nashville and Mr. Edward

A. Hayes of Decatur, speaking for The Legion. From the interest at last aroused among physicians I predict that luncheon meeting will be a large one.

THOMAS P. FOLEY, M. D.

NOTE: The Shoulders' Resolution is published in full elsewhere in Editorial Section of this issue. All physicians should read and digest thoroughly the Shoulders' Resolution. The proper care and hospitalization of ex-servicemen is of vital importance. The problem of care vitally concerns the ex-servicemen, the taxpayers and of course the medical profession.

The medical profession is not only willing but is anxious to see that service men get the most efficient care possible. This ideal service can only be accomplished when the ex-servicemen are allowed the opportunity of selecting his own physician and is allowed to be cared for in the already established local hospital.

THE DOCTORS WILL HAVE TO DO THE WORK OR IT WILL NOT BE DONE

January 15, 1932.

To the Editor: The proposition of handling pauper work, which has always been difficult enough, has been made additionally interesting in the last year in this state by two things, the general financial situation and the passage of the township pauper law. I know already of several plans for handling this practice, and it has occurred to me that a combination of some of them might be of some value, suggestively, to some of the county societies and their members. There is only one thing that all our advisers, lay, financial and professional agree on, and that is that the doctors will have to do the work or it will not be done. There is never any argument about that.

First, let each County Medical Society establish a list of fees for pauper work; for example, one-half the standard, established minimum fees charged for all sorts of work in the County.

Second, let the patient, and the supervisor or overseer of his township, choose his physician.

Third, have all fees for pauper work earned by the physicians of the County paid into the County Medical Society's treasury. Out of that money pay the County and State dues of each member, and the necessary running expenses of the Society. Contribute part of the necessary salary of a social worker to help decide who is entitled to pauper relief. The township or County should pay a generous part of such a salary, for a good deal of money as well as work could be saved in that way. Then pro-rate the balance, to each man who has done any work, in accordance with the amount of work he has done. Then let him do what he pleases with his money, keep it himself, or turn it into a general fund for the use and benefit of the society members. I know one small County Society which maintains a nice library, reading room and meeting room; another has over a thousand dollars at present unexpended in its treasury, and so on.

Such a plan, modified to suit each locality, will work because in various forms it is working—if the doctors on one side and the county authorities on the other side will play fair. (Incidentally, no plan will work for any length of time if the participants will not play fair.) It will leave the control of medical affairs where it belongs, with the medical men. It will provide that each man gets paid for what he does, and he can do what he pleases with his earnings afterwards. The help of an honest social investigator will materially cut down unnecessary work and unnecessary expense. And such a plan will tend to preserve the decent rights of the medical profession. The time has already come when this profession must stand up for its rights in the financial world or suffer the consequences; that time is here, right now.

Some one will raise this point: What if certain members of a society refuse to agree to such an arrangement? Those who care to do so can make an organization for this purpose within the Society, and leave out those who do not care to without in the least impairing the professional standing of anyone either in County or State Societies.

B. C., M. D.

UNPLEASANT EXPERIENCE WITH COLLECTING AGENCY

Effingham, Ill., January 7, 1932.

To the Editor: Several merchants, dentists and two physicians are having a rather unpleasant episode with the Birdsall Loan and Finance Co.

of Jacksonville, Ill. During December the representative visited us, and sold us on the proposition of letting them have a list of our accounts, that they would write the debtors one letter and then call on them personally and secure a judgment note for the amount of the account, the note to be with 7 per cent. interest. They would then discount our account 25 per cent. and pay us, when we were to send a receipt to the patient to cover the account in full. We were to sign no contract—and all we did sign was a small slip—which was represented as showing the list of accounts as correct.

Their first letter to debtors was a demand for money—the money to be paid to the collecting agency with a threat of sight draft on their bank accounts. The second letter was a notice of garnishment. No representative has called on the debtors and no report of collections has been made to us. Several of the men have written to them to stop their cheap collection agency tactics as they will antagonize all of the patients and the collecting agency replied that they would only stop if the commission was paid; that we have assigned the accounts and had signed a contract, etc.

Please give this matter publicity in your Journal for the information of other physicians.

THEO. F. REUTHER, M. D.

BOVINE TUBERCULOSIS NOW RARE IN ILLINOIS

The *Illinois Health Messenger* for January 15, 1932, says:

Tuberculosis in cattle was once a great source of danger to people in Illinois. This danger has been reduced almost to the vanishing point. People are protected from bovine tuberculosis in two ways. One is the pasteurization of milk and the other is the elimination of tuberculosis among herds through the testing of cattle and the slaughter of those which are infected. Both of these methods have been employed on a large scale in Illinois.

The result is that more than 3,000 cases of tuberculosis of bovine origin are prevented annually in the State. This at least appears to be a fact from the statistical evidence available. Bovine tuberculosis in humans is confined largely to children under 5 years old.

Twenty-five years ago, 6 per cent. of all deaths from tuberculosis in Illinois were among children in that age group. In 1930 only a trifle over 3 per cent. were among children under five. The actual number of deaths from tuberculosis among children under five years old has declined from about 450 to about 150 per year within a quarter of a century. Most of this decline has occurred during the last decade.

This indicates about 300 fewer deaths per year in a population much bigger than that of 25 years ago. Since for each death there remains 9 or 10 cases of the disease, the improvement includes the prevention of some 3,000 cases of childhood tuberculosis per year in Illinois.

A large percentage of bovine tuberculosis is confined to abdominal tuberculosis in children under five years old. Thus if control measures over bovine tuberculosis are effective there should be a significant decline in abdominal tuberculosis among these children. An examination of the statistics shows a very marked reduction. Twenty-five years ago abdominal tuberculosis accounted for 11 per cent. of the mortality from this disease among children under five years old. Ten years ago it accounted for 6 per cent. In 1930 abdominal tuberculosis accounted for only 3 per cent. of the mortality in this age group.

MATERNITY BENEFITS, SOCIALIZED MEDICINE

Dr. W. A. Dolan, of Fall River, says: "Maternity Benefits is paternalism, communism, Sovietism, and all the other isms of the kind condensed into one.

"It is the entering wedge for all the various forms of compulsory insurance, such as Health, Old Age, Sickness, etc.

"It is the camel's head in the tent, soon to be followed by the rest of the camel.

"It makes the white man the equal of the Indian, a ward of the State.

"The State has as much right to pay my grocery bill as to pay that under discussion."

THE SALES, CREDIT AND COLLECTIONS DEPARTMENT

Many proposals are coming to the fore whereby doctor and patient are to be financed in one way or another. They all represent a gearing of the profession to accord with obvious trends in the commercial world—with instalment buying, the mortgage system, and what-not.

One may, in time, hear one child inquire of another: "Are you paid for?"

Vehicles may traverse the town looking for "unlicensed" citizens and taking delinquents to the "pound."

It may come to pass that school entrance will hinge not alone upon vaccination but upon certification as to the medical sales status.

Perhaps there will be challenges at the polls on election days: "Have you paid your last doctor's bill?"

When, at the altar, the clergyman issues the old challenge as to why the sacrament should not proceed, there may some time step forward a process server with the doleful words: "The Bank of the Metropolis holds an unsatisfied note against this man for a mastoid operation!"

Efficiency and service demand no less, and brisk business men stand ready to serve us.

Tempora mutantur, etc.—M. J. & L. J. M. J.

Original Articles

THE MEDICAL SCHOOL—OBJECTIVES

IRVING S. CUTTER, M. D., DEAN
Northwestern University Medical School
CHICAGO

One organization there is that must be specifically charged with the development of methods of teaching—namely, the Association of American Medical Colleges. But this earnest group cannot achieve alone the optimum of results. Delegates to its sessions are Deans of Colleges, teachers in the preclinical sciences with a sprinkling of clinical teachers. Few of these are on the firing line of medicine; in daily contact with the public. It should be said in passing that the deliberations of the College Association have revolutionized for the better, teaching methods in practically all departments of medicine. Nevertheless the clinical surgeon who accurately mirrors the end results of training must lend his best thought to a continuing program of teaching advance.

Medical education has been viewed for too long a period as the particular job of those who teach. This view falls far short of the necessities of the situation and the reason is not far to seek.

During the past quarter of a century, American medical schools have progressed at a stupendous rate in point of physical equipment and endowment. It is, however, fairly self-evident that the product of our schools, measured in terms of accomplishment, can scarcely be said to justify, as yet, this enormous outlay in buildings, equipment and endowment. It is generally conceded that the rate of physical expansion has far exceeded growth of planning; of the development of method, with sound principles of teaching. Our rush to acquire magnificent physical plants—some perhaps loaded with an annual operating cost that is staggering—has been illogical. Our knowledge of how to build, what to build and how to utilize what we have built, has not kept pace with our building. Some schools are fortunate in that plant accretions have come gradually, permitting a carefully thought out integration of each new unit with the established whole. Indeed in some few American Universities the building program has so far outdistanced educational development that there is much scrambling for some patent scheme of education that will close the gap.

We cannot explain away our dissatisfaction with our present day methods on the ground that there is too much to do; that the mass of material to be mastered has overwhelmed us. Rather is it a lack of perspective in our view that prevents organization of the curriculum in such a way that the student shall be constantly more alert, more keen, more enthusiastic and less bewildered, less mentally choked by the necessity of the mastery of non-essential detail.

Were it possible, a reversion to the preceptor system would cure most of our pedagogic ills, for after all, our great surgeons of today are those who have received individual instruction at the elbow of a great surgical teacher. So-and-so was a pupil of Halstead, so-and-so a pupil of Dever, of DeCosta, of the Mayos, of Cushing, students who lived in the atmosphere of surgery with a master. Perhaps we cannot approach this in our present scheme of undergraduate and graduate training. We can, however, give thought to the problem and muster the interest of this great group.

In our consideration of the future of American medicine and the role of education, to assume that the general practitioner is to be eliminated from the picture is unwarranted and unsound and based upon an insufficient knowledge of social trends. Whether the American home is destined to survive or not is beside the question, but the American Medical profession completely, totally and sharply segregated into special groups would promptly invite into the healing ranks numerous unborn healing cults, as well as stimulate those existing cults that have gained considerable headway. We must, therefore, postulate at the outset a training of the undergraduate for the general practice of medicine and surgery that will insure competent and skilled care for at least two-thirds of our population. We cannot view the problem of the future without a careful study of social trends and economic tendencies. New lines of cleavage are appearing here and there in our social fabric, while economic principles, accepted for generations, are found wanting under the critical application to modern conditions. Unless changes that are occurring in our social and economic affairs are anticipated, medicine will tardily lag where it should lead. The bur-

den falls first upon our educational institutions where we assume that new ideas, are not only born but find serious students and receive serious consideration.

Every worker in the field of medicine senses on the part of his public a feeling of unrest, which in some quarters amounts to genuine dissatisfaction as evidenced by the numerous fault-finding magazine articles, largely from lay writers. He senses, too, his own inefficiency, his own inability in the management of numerous problems that come to him. Some of this ineffectualness arises from the fact that no phase of medicine is an exact science. On the other hand, a part of his inability to cope with every situation is due to his training and this it is that constitutes the problems which the American College of Surgeons can help to solve.

Medical Schools are not factories turning out a standardized product. There are no moulds or dies which stamp true to pattern; hence there is no one best plan of medical training. Schools are endeavoring with a superior type of American youth, to preserve and stimulate individual thinking and to offer advantages for self-education. We have at least taught the majority of our students that the undergraduate course does not and cannot train them for the definite practice of general surgery. Most students now realize that training for surgical practice requires several additional years of intense application under a wise master. Advances in medical education to be permanent and worthy cannot come as the result of a Crusade; a whirl-wind campaign with a clean-up at the end. On the other hand, careful, accurate, painstaking studies will avail much.

The American College of Surgeons has accomplished a huge task in accrediting and standardizing hospitals, surgical procedures and the like, but these worthy objects are but the shell or husk of the vital problem; namely, the future development of American medicine. Picture if you will each of our hospitals a teaching center with medical students, perhaps, certainly internes, staff, nurses and personnel, a center not only for professional, but lay education with definite objectives. How many of our hospital staffs accepting, nay demanding, internes—teach? The interne period to the student is or should be the most valuable period of his life, and yet are the staffs of *all* of our hospitals rising to the rare opportunities which are theirs? To fire a staff with enthusiasm for teaching is ofttimes as difficult as to reanimate the dead. Sound, accurate, thorough and interesting teaching of internes, is the obligation of every staff accepting them.

On the whole, it is my firm belief that the teaching of surgery in American medical colleges is probably better done than is the teaching of medicine. Possibly this is due to the reflex interest of the student, his disproportionate admiration for the brilliant surgeon, and his over-emphasis upon things surgical. Nevertheless the teaching of surgery is not good enough, and while a generation must elapse before we can demonstrate our failure or success, we of the present day must take the long focus view of things; we must think "long thoughts."

303 East Chicago Avenue.

THE HISTORY OF OBSTETRICS

Henry Buxbaum, M. D., F. A. C. S.,
Instructor in Obstetrics Northwestern University School of Medicine,
CHICAGO

It is difficult for modern imagination to visualize the status of the obstetrical art during the past ages. Fancy a world where all the modern facilities for the parturient were not available, nor the revelations of the microscope, the stethoscope, or the obstetrical forceps as yet made. Imagine a lying-in case attended only by a midwife and she usually of low caste, and physicians, such as they were at that time, not allowed in a lying-in chamber under penalty of death, and the only operations known were of a destructive nature. Such was the status of the obstetrical art before the time of Hippocrates in 400 B. C. The writings on the history of obstetrics are voluminous, due largely to the fact that this particular branch of medicine is composed of five large subdivisions, namely, conception, pregnancy, labor, lactation and involution, each of which is replete with ancient history and folk lore. No other subject in the entire field of medicine is associated with as much romance and historical interest as is obstetrics. It has been, because of its peculiar nature, often confused with fanaticism, mysticism, tradition and a good deal of superstition, much of which has been transmitted down to the present day. Many of

the superstitions now prevalent amongst the ignorant of today had their origin in the dark ages. This is readily comprehensible when we take into consideration the history of its foundation and its intimate relation to the advance of mankind throughout the ages. Such superstitions as prenatal influences, the causes of birthmarks and naevi on the new born baby, the predetermining of the sex of the unborn child, and many others too numerous to mention, had their origin in these primitive days. Each generation refuting some of the superstitions of the preceding generations and adding others in their stead. In this regard it is interesting to note that as late as 1522 one Dr. Wertt of Hamburg put on a woman's dress to attend and study a case in labor and was unfortunately detected, for which he was promptly burned at the stake. Obstetrics since its earliest inception was conducted entirely by midwives or even untrained women and it was generations before any male was allowed to enter a lying-in chamber, and then only at the request of the midwife in attendance. This practise is still in vogue in many places, in Africa, Asia, Europe and even in America among the foreign born, negroes and native Indians. I will attempt to classify and summarize the progress of obstetrics in epochs from the earliest historical data on the subject to the present date. For convenience sake let us divide this into two great divisions, the empiric or natural epoch and the scientific epoch.

The Empiric or Natural Epoch. In this empirical epoch there are three well defined eras marking the slow development of the obstetrical art. Notwithstanding the advance made in culture and civilization at this time, the advance in this art was relatively slight and mediocre. The first era might well be termed the primitive or intuitive era of which we have very little historic record as this period existed long before biblical times. The necessary aid was rendered by untrained women who knew intuitively what to do, an atavistic trait simulating animal instinct. Abortion was practised even at this early day, by external and internal manipulations for various reasons. If, for any reason danger was to be expected to the mother, or an increase in the family undesirable, there were authentic instances where abortion was resorted to. Sort of a primitive birth control. Labor in itself was usually a normal process due to the fact that the women lived almost always out of doors, and in a good measure due to the reason that there was no intermingling of races or even tribes. This of course tended to eliminate any complications resulting from contracted pelves, for even if the tribe was small in stature the husbands would be the same size, and naturally the women's pelves would be in proportion to the rest of their bodies, and the fetuses would be in proportion to the size of their pelves. Labor was presumed to be a voluntary act on the part of the fetus and the character of the labor was presumed to depend on the disposition of the child. So, therefore, any child so perverse as to cause any change in the normal act of labor deserved to die, as did a mother who bore such a child. As to labor itself, manual aid was rendered by pressure on the abdomen from above or shaking the woman. The women were all delivered in a squatting position on the ground, and the perineum was protected by sitting on a small mound of sand. The third stage of labor was managed by several different methods. It some places the placenta was allowed to be expelled with the fetus intact, and then cut, dried and preserved. In other places the cord was severed as soon as the baby was expelled, and then handled by three different methods. It was either cut off, bit off, or a string was tied to the cord and the other end of the string attached to the big toe of the patient, who by gentle traction pulled out the placenta.

The second era of the empirical epoch might be known as the religious era, because during this period priests assumed the duties of physicians and were even called upon to assist midwives during difficult deliveries as mentioned in the old testament. This era was at its height about 1500 B. C., as told in the Ayur Veda of Susrata, called the Book of Life of India. This book, it is interesting to note, was said to have been written by the great Brahma himself.

This period was further emphasized by the erection of numerous shrines to various Deities, where the sick and disabled went for assistance and succor, and whatever fee they voluntarily contributed was considered a gift for the Gods. In Egypt the God of healing was Imhotep, and in Greece was Aesculapius who with his daughters Panacea and Hygeia were looked on as the main

preservers of the health of the masses, and Roman mythology is replete with similar Deities.

Cephalic version is now mentioned to correct the position of the child, for at that time the only favorable presentation conducive to the life of both mother and child was cephalic presentation. Cesarean section was done only post mortem. If a fetus died in utero it was either cut up and delivered, or allowed to remain in the uterus to decay and rot, and would be spontaneously expelled subsequently by the uterus which probably was not a bad procedure. The tardy placenta was removed by either pressure, shaking or vomiting. Cleanliness was somewhat established by washing the external genitalia in running water and annointing with banana oil, which contains about 60% alcohol. The puerpera were isolated for about two months or longer. The most outstanding advances made in this period were the invention of the cephalic version, allowing a dead fetus to be expelled spontaneously, and the fact that priests because of their greater learning were called on as consultants in difficult deliveries.

The third and last era of this empiric or natural epoch might be called the progressive era, because rapid strides were made in putting the obstetric art on a more scientific basis, and thereby paved the way for the many discoveries that were to follow. It begins with the teachings of Hippocrates in the year 400 B. C. The care of the child bearing mother is still in the hands of midwives, the physicians being only summoned after the death of the fetus for the purpose of cutting it up and removing it. Hippocrates, known as the father of medicine, speaks of podalic version even at this early date. The obstetric chair was introduced at this time, which was a great advance over the old method of delivering the women on the ground. This was an ordinary chair with a hole cut out of the seat, and the midwife would necessarily have to kneel in order to successfully deliver the patient. The physicians of this period were somewhat handicapped by their lack of knowledge of anatomy and physiology, and therefore advancement was slight, the only progress being made was in the perfecting of mutilating instruments and technique. Shortly before the Christian era, Greek physicians perpetuating the work of Hippocrates were chiefly Celsus, Galen, Soranus, known as the father of gynecology, and later Vesalius, who contributed mostly to advancing the science of comparative anatomy. Podalic version was now being done more often, and extraction of the fetus after version was mentioned. A vaginal speculum crudely devised, was introduced by Soranus.

But sad to say, the obstetric art was at a standstill during the third and fourth centuries when the Roman Empire was in its ascendency, and when Roman culture succumbed to luxury, gluttony and licensure, and after the fall of the Roman Empire all Europe was in chaos and advances in everything scientific, including obstetrics was relatively slight. There was some culture fostered and maintained at this time by the Arabs, but because of their nomadic tendencies nothing permanent was left. During the middle ages between the sixth and the sixteenth centuries darkness still prevailed in Europe, and the teachings of able men were laid aside, and were replaced with ridiculous fanatic theories. In the middle of the thirteenth century, Bishop Paulus of Spain was accredited with performing the first cesarean section on a living woman.

The notable advances made in this period were the teachings of Hippocrates, the performance of podalic version and extraction after version, the founding of the Galenic school of medicine by Galen, the introduction of the vaginal speculum by Soranus, and the confining of the gravid woman in a standing or kneeling position, or in a obstetrical chair.

Scientific Epoch. This great epoch opens with the rediscovery of podalic version by Ambrose Pare, the great French surgeon, in 1550. Among other things that Pare contributed to the medical profession in general and the obstetrical field in particular was the founding of the first school for midwives in Paris known as the Hotel Dieu. One of the first graduates from this institution was a midwife by the name of Louise Bourgeois. She was the midwife by appointment to the royal house of France, and because of this naturally incurred the enmity of the practicing physicians of her time. She had the honor to deliver all the members of the royal family for which she was well repaid. Among others that she had the honor to bring into this world was Le Dauphine, the first male child in a number of years in the

royal family who was in direct line for succession to the throne of France. She later had the gross misfortune to have a princess of the royal family upon whom she was in attendance die during labor, and was tried by a jury of twelve physicians. She was subsequently found guilty of gross negligence in her management of this case by this august body of her peers, and was denied the privilege of further officiating at confinements. In retaliation she wrote a pamphlet she called her Apologia, in which she denied the allegation as set forth in the indictment. She also called their attention to the fact that probably none of the physicians who tried and condemned her had ever seen a woman in labor, which was more than likely true. She claimed her patient died from cancer, but from the available data on this controversy as viewed in our present day knowledge it would seem as if this death was due to a retained placenta followed by infection. In any event this Apologia of Louise Bourgeois is an interesting document and a classic in sarcastic repartee. Suffice to say she did not practice again. France was the center of obstetrical research and progress, led by such an outstanding man as Mariceau. Incidentally, it was around this time in 1628 that Wm. Harvey wrote his epochal treatise describing the correct circulation of the blood, and a few years later in 1632, Loewenhock invented the first microscope. This brings us to that interesting event in obstetrical history, the invention of the obstetrical forceps and its relation to the notorious Chamberlain family, to which I will devote a separate chapter.

History and Evolution of the Forceps. The history and evolution of the forceps is no doubt the most interesting and fascinating reading in the annals of obstetric literature. Up to this time, as I have attempted to point out, the only advances or additions made in the obstetrical armamentarium was the improvements made in mutilating instruments and filets. It probably seems peculiar that the obstetrical forceps were so long in coming, but this is readily realized when we take into considration the fact that all deliveries were conducted by sages femme or midwives, and physicians were not called in until they were absolutely required. The history of the discovery of the forceps is so intimately interwoven with the geneology of probably the most notorious family in medical history, that it will be impossible to separate them and therefore I will cite the history of the discovery of the forceps with a chronological review of the Chamberlain family. This family kept their invention secret for over 150 years for a purely selfish motive. Whenever any of them were called in consultation to deliver a stubborn case they would not permit anybody to observe the performance, as they were afraid that somebody might discover their secret and duplicate their forceps. They charged an exorbitant fee for their work and feared competition. The entire family also had a peculiar knack for delving into many non-medical ventures, with always the same thought uppermost in their minds, self aggrandizement. They also had considerable political power due to their appointment as obstetrician to the Queen of England. Using this as a leverage they engaged in innumerable political disputes and controversies. They also recommended to Parliament numerous reforms, none of which were practical and were therefore doomed to failure. The only thing they recommended that eventually was successful was the union of Scotland and England. In short they were considered by their contemporaries as quasi charlatans.

About the year 1569, according to Aveling, a Huguenot by the name of William Chamberlain was forced to flee from France because of a religious war raging there at that time. Some of the Huguenots fled to South Africa and started the Boer colony, which was later ruled by Oom Paul Krueger, and the balance fled to Southampton, England. Among the latter was William Chamberlain, his wife Genevieve, his two sons Pierre and Jacque, and his daughter Jean. After landing in Southampton, they discovered some error in the baptismal record of the two boys, and they were both named Pierre or Peter. So as to be able to distinguish between his two sons the father called them Peter the Elder, and Peter the Younger.

Peter the Elder lived from 1560 to 1631, and he is generally credited with being the inventor of the famous Chamberlain forceps. He died in 1631 and left no children. Peter the Younger was born in 1572 and died in 1626. These two brothers having the knowledge and ability to deliver a live child from the parturient canal of a mother by means of a metal instrument were necessarily in great demand. The other physicians in order to compete with them, first tried

to discover their secret, and failing this had to resort to many different types of filets and appliances which were obviously unsuccessful. Peter the Younger left one son who practiced medicine, and among other things he fell heir to was the Chamberlain forceps. He was also named Peter and lived from 1601 to 1683. He perpetuated the Chamberlain tradition and when he died passed the secret and the forceps on to his sons, of which he had three, all physicians. John, the oldest, was an out and out quack, Paul, who sold patent medicines and belts, and Hugh who was slightly more orthodox than his brothers inherited not only the forceps, but also the family flair for creating trouble and interfering in other people's affairs, political, private and otherwise. Due to his prestige in the court of England he tried to organize the midwives into a society, electing himself president, and making it obligatory for them to call him in consultation at the least sign of dystocia. He was partially successful in this, and became extremely well hated by his medical confrerees who brought up charges against him before the medical society. When he died he left one son who was a physician, and to whom he bequeathed the Chamberlain forceps. Hugh, Junior, as he was named, was born in 1664, and died in 1728. He was the last male descendant of the Huguenot William Chamberlain, who practiced medicine. Hugh, Junior, following in the footsteps of his notorious ancestors, got himself into many difficulties, mostly financial, and later in his checkered career was instrumental in wrecking a bank in England. England immediately became too hot for him and he fled to Holland, and needing money badly he sold his precious secret but not the original forceps to a Dutch obstetrician named Roonhuysen for seventy-five hundred dollars, who in turn sold part of this valuable instrument to anybody having the price, but would not disclose the entire secret. He sold only one blade to be used as a vectis, thereby adding fraud to infamy. Previous to absconding to Holland, Hugh went to France and tried to sell his instrument, and there met Mariceau, who agreed to purchase his instrument if he could deliver a woman with a contracted pelvis from below on whom he had intended doing a cesarean section. When she went into labor Hugh Chamberlain was called and he tried strenuously for three hours to deliver the woman with his forceps from below without success, so Mariceau refused to buy his forceps. The patient and her baby subsequently died.

The original Chamberlain forceps was found later in an abandoned house in Essex, England, about 1812, during some excavation work on a building where Hugh Chamberlain once resided.

As I have previously mentioned, the other physicians during the 150 years that the Chamberlains were in power, tried to ascertain or duplicate their precious secret, but it was not until 1717 that Jean Palfyn, a Belgian, demonstrated his instrument, which consisted of two blades that did not cross and had no lock, but were held together by strings. Palfyn after great physical difficulty succeeded in presenting his instrument and was officially credited with being the inventor of the forceps. His instrument was manifestly inferior to the original Chamberlain forceps. Levret, a Frenchman, in 1747 modified the forceps by adding the pelvic curve, crossing the handles, and utilizing a so-called French lock, which somewhat resembled some of the salient features of the original Chamberlain forceps. In 1752 Sir William Smellie built a pair of forceps with a fenestra and short thick handles. In 1848, Sir James Y. Simpson of London lengthened the handles to keep the hands away from the rectum, and used a sliding English lock. In 1877, Tarnier described the original axis traction forceps, for application with the head at or above the inlet of the pelvis, a maneuver in disfavor today. In 1915, C. Kielland devised a forceps with no pelvic curve, extra long handles and a flat sliding lock, that could be used for rotation as well as traction. No other forceps in obstetric history has caused nearly the amount of comment and discussion as the Kielland forceps, some critical, but mostly favorable. De Lee about this time modified the Simpson forceps by increasing the cephalic curve, so as to produce less lateral pressure associated with longitudinal lengthening of the head. He also made several changes in the handles making the blades lighter and more easily sterilized. A. H. Bill of Cleveland in 1919 described a modification of the Lueken McLane forceps which consisted of a traction appliance attached to the base of the solid blades for rotation and traction in occiput posteriors.

Barton in 1928 described his forceps with one hinged blade available for high rotation and axis traction, and in 1929, E. B. Piper described a forceps with an angulation in the shank for delivering after coming heads in a breech presentation.

I have by no means attempted to name or describe all of the forceps that were perfected and used in the past, as the different variety of forceps that had been produced were legion, in fact every obstetrician of note in the past would add some slight modification to the forceps in vogue at the time and attach his name thereto. All I have attempted to do was to describe the outstanding forceps of their time with their distinguishing features. These standard forceps combine practically all of the various modifications and features of nearly every forceps devised and used by physicians during the past centuries.

So much for the invention and development of the obstetrical forceps. France still continued as the pace setter in the world of scientific research, but other nations were beginning to apply themselves to improving the art of obstetrics. In Germany during the middle of the 18th century there became known a midwife by the name of Justine Sigmundine who was midwife to the court of Brandenburg. Among other things she described a double manual internal version that is still mentioned by De Lee in his text-book. In England, there were Sir Fielding Olds, Thomas White who was really the first man to describe what we now call the Fowler's position; Sir William Smellie who as previously stated perfected a short handled obstetrical forceps and many other reforms, notably with Mariceau described the treatment of the after coming head, and many others. This was about the time that the Hunter brothers, William and John, were applying their brilliant minds to the advancement of the scientific side of medicine and obstetrics. They did quite a little research in anatomy with special reference to the fetal circulation. The end of the 18th century marks the time of the founding and establishment of chairs of obstetrics in various universities, notably in London, Dublin, Edinburgh and in Italy. The end of the 18th century might be considered as the end of the first phase of the scientific epoch.

The next period could well be called the physiological era for it was now that there was a complete emancipation of obstetrics from surgeons with their impulses for surgical or instrumental interference, and was replaced by rational physiological obstetrics. It begins about the year 1800, and we find obstetrics now considered not only an art but a science as well, largely due to the splendid pioneer work of such men as the Hunters, Smellie, Mariceau and D'Outrepont. Cesarean section was somewhat hampered by the public ravings of Sacombe, a Parisian charlatan. Like many other things in the field of medicine he unwittingly benefited the cause of cesarean section by calling the attention of the profession to some of its defects, with the result that there were formulated more rigid indications and requirements for its performance. The frequency of pelvic deformities was recognized in northern Germany and England and so external version was recommended by Wigand. In 1819, Laennec, a Frenchman, invented the stethoscope which proved a tremendous advance to the entire field of medicine including obstetrics. This period marks the passing of the last of the celebrated midwives, Marguerite La Marche, Marie La Chapelle and Marie Boivim, and also the demise of the obstetrical chair, as physicians by this time were following the technique of Mariceau and delivering all their patients in bed.

The greatest single aid to the parturient occurred in the perfection of sulphuric ether by the American dentists Jackson of Boston and his pupil, Morton, in 1844. Ether as an anesthetic was also described independently by Long at the same time. But it was not until 1847 that anesthesia was used during a delivery and then in the form of chloroform by Sir James Y. Simpson of London.

Cesarean section was still done with reluctance because of the enormously high maternal mortality, due mostly to puerperal fever, and this operation was looked on as a very dangerous procedure until Porro in 1846 described an operation bearing his name in which a cesarean section was immediately followed by a supracervical hysterectomy, which operation became widely employed with a marked decrease in maternal deaths. In 1860, Credé described his technique for management of the third stage of labor, and in 1880 he called the attention of the world to the prophylactic treatment of ophthalmia neonatorum, recommending the use of silver nitrate in the baby's eyes soon after birth. Around the mid-

dle of the 19th century the world took cognizance of the scourge known as child bed fever, and numerous investigators tried to solve this serious problem, a problem so vital, so dangerous that it was creating havoc in the medical profession, and threatened to set the science of the obstetric art back several centuries, so therefore I will attempt to describe the advances made in solving this problem in as brief a manner as is commensurate with the importance it deserves.

History of Puerperal Fever. I fully realize that there is a great deal of controversy about to whom belongs the credit for first describing the cause and prevention of child bed fever, and after having made a somewhat critical review of the past literature dealing with this subject, I am personally convinced that full credit should be given to a Hungarian physician by the name of Ignatz Semmelweis. While several other men before him appreciated the contagiousness of puerperal fever, it remained for him to find the actual etiology of this condition and he forthwith dedicated his life and reputation to preach the gospel of personal cleanliness in obstetrics. Before his monumental work on this moot subject, it was common knowledge in Vienna that of the cases delivered by the physicians there was a maternal mortality of approximately 10%, while of those cases delivered by the midwives there was a maternal mortality of only 3%. Therefore, the public being well aware of this situation naturally were greatly alarmed when told they were to be delivered by a doctor, preferring the midwives. So Semmelweis decided to study this problem, and immediately noticed that the doctors and students often came directly from an autopsy or dissecting room to deliver a baby, and following these cases further also noticed that these were the cases that mostly always ran the temperatures. Semmelweis had a roommate named Professor Kolletschka who was a pathologist, and somewhere about this time while doing a post mortem, a student pricked his finger with a needle from which he developed an infection and subsequently died. Being a true scientist he left instructions that his body be posted, preferably by his friend and roommate Semmelweis. Now Semmelweis had already notice the similarity of the courses of the diseases run by his friend, Kolletschka, and those unfortunate women dying from child bed fever, and at autopsy substantiated these clinical findings. So therefore he made a statement in which he said that puerperal fever was caused by contaminating the external genitalia of the parturient with decomposed animal matter brought there by the hands of the doctor, student or nurse. He also appreciated the fact that this contaminating matter might be carried there by the air. If we substitute the word bacteria for decomposed animal matter his definition would be essentially the same as it is today. He immediately advocated the unheard of procedure of insisting on personal cleanliness. He also recommended that anyone leaving an autopsy or dissecting room to confine a woman should first change his clothes, then scrub his hands thoroughly, and even went so far as to advise cleaning their finger nails. In those clinics where this procedure was carried out the maternal mortality fell considerably, even below that of the midwives. But on the other hand most of his contemporaries ridiculed his ideas, in fact, they treated him with disdain and his views with sarcasm. He was abused and maligned, he lost his assistantship in Vienna and later died a wretched pauper in an insane institution. It was not until after his death that the world at large really appreciated what this man had done for humanity.

Of course, a condition as devastating as puerperal fever was recognized and appreciated before Semmelweis' time, but the majority of men until then still believed in the old dictum set down by Hippocrates, that child bed fever was due to the suppression of the lochia, thereby mixing cause and effect. Still other men believed that this condition was caused by absorption of the milk, due no doubt to the milky like discharge coming from the genitalia of these women, instead of the normal red lochia. So therefore, I repeat that Semmelweis by finding out the true cause of puerperal fever, especially before the days of bacteriology, is deserving of the greatest amount of credit, such as it is.

About 1827, Robert Collins, who was master at the Rotunda Hospital at that time, by close observation recognized the contagiousness of puerperal fever and tried various methods to eradicate this condition or at least limit its spread at his institution. He advocated washing the walls, floor and ceiling of the lying-in chamber with chlorate of lime, and using paper sheets on the bed instead of linen, using clean paper

sheets for every delivery. By these preventative methods he was responsible for the radical lowering of the death rate at his institution. About 1840 Alexander Gordon of Aberdeen also tried and did succeed in decreasing the mortality rate among expectant mothers by the employment of similar antiseptic measures. In 1842 our own Oliver Wendell Holmes, poet and obstetrician of note, published an article in a New York medical journal relative to the contagiousness of puerperal fever recommending several radical reforms in the care of the parturient, for which he was vigorously criticized by his contemporaries, Hodge and Meigs. But it remained for Ignatz Semmelweis to give to the universe the true cause of child bed fever in 1847.

Suffice for puerperal fever. The next and final period in the scientific epoch may be correctly labeled the antiseptic or aseptic era, for it is during this period that attention is finally being placed in finding out the specific etiology of disease, its prophylaxis and its cure.

About the middle of the 19th century, Pasteur did his epochal work establishing the exciting cause of most all diseases. He applied himself to the study of bacteriology and was the first individual to correctly describe the morphology of bacteria and their intimate relation to disease. A little later Louis Jenner applied this knowledge in a more practical and spectacular fashion. Shortly after this Koch formulated his famous four postulates dealing with the verification of the bacteriological cause of disease. About 1870, Lord Lister of London recognizing the value of the findings of Pasteur and attempting to apply their discovery to a more practical solution of the problem met with the same short-sighted resistance or opposition as did his predecessor, Semmelweis. He was also furiously opposed by his own countrymen, and by some of his colleagues abroad. I am glad to note that it was in America that he received his greatest recognition. What he mostly did was to correlate and utilize the scientific researches of all his predecessors, especially Pasteur and Koch, and apply their findings clinically. He mainly advocated spraying the operating room and everything that may come in contact with the patient with a solution of carbolic acid. While this routine led to a good deal of controversy it nevertheless paved the way for our modern rigid system of asepsis, which has its greatest field of usefulness in domain of obstetrics. Lord Lister, fortunately before he died, received the plaudits and recognition he so richly deserved from the world at large, and from his colleagues in particular.

In conclusion allow me to state that I have tried to present the most notable advances made in the art and science of obstetrics during the past centuries in as concise and brief a manner as possible. I also tried to divide and identify the progress and evolution of this ancient and honorable art with the period in which these changes took place, associating it with a slight reference to the historical happenings of the day. I believe that we have a number of obstetricians living today who are of the same calibre as the great men in the past, and with the greater amount of facilities now at their command we can look forward to the future with encouragement. And while the giving of birth is still a somewhat hazardous procedure, from our knowledge of the extremely slow advance of the obstetrical art in the past, this enormous sacrifice of young mothers on the altar of negligence and indifference, we feel certain will be eventually remedied.

Our knowledge of obstetrics today is a correlation or I might say a condensation of all the knowledge and wisdom given forth by the great thinkers in the past generations, and the present still finds the studious and the concerned striving to perfect the science and art of obstetrics in all its branches, *i. e.*, the teaching of, the hygiene of, the physiology of, and the technique of caring for the women during conception, pregnancy, labor, lactation and involution.

In closing, I can only hope that the coming generations may benefit by our experiences as we have benefited by the experiences of those generations preceding ours.

55 E. Washington Street.

THE VALUE OF CLIMATE IN THE TREATMENT OF TUBERCULOSIS*

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Not so long ago the newspapers printed a brief statement by some anonymous government

*Address before Valmora Sanatorium dinner, Chicago, Ill., October, 1931.

physician to the effect that climate is valueless in the treatment of disease. The same papers announced in large headlines that an ex-Secretary of the President's Cabinet, on his way to serve his sentence in an eastern Federal prison for bribery, had been found to have tuberculosis and was to be transferred to the New Mexico State Prison, so that he might enjoy the benefits of climate.

There has been much insidious propaganda quietly foisted upon the public, to the effect that climate is no longer desirable in the treatment of disease.

It is my intention this evening to talk a bit about climate, and its place in the treatment of disease, and, particularly, in tuberculosis. Tuberculosis is a disease of civilization, and in spite of our anti-tuberculosis campaign it is still the most prominent cause of death between the ages of twenty and forty years—the most productive period of man's life. It has been with us since before the dawn of history.

The skeleton of a young man about twenty years of age has been found in a grave of proved Neolithic or Stone Age which was from 7000 to 3000 years before Christ. This skeleton is the oldest case of Pott's disease, or tuberculosis of the spine, known.

Coming through the ages we find the evidence of tuberculosis disease in the Egyptian mummies that lived during the reign of King Tut-Ank-Amen and the Pharoahs.

In a later period, one of the Greek physicians, a contemporary of Hippocrates, the Father of Medicine, who lived 460 to 370 years before Christ, writes "If I had the consuming disease, I would plant my tent on the southern slope of the mountain, would get myself a goat and rest there." And let me say that very little has been added to this through the centuries. The tent means pure fresh air and rest; the southern slope means altitude, sunshine, and fresh air; the goat means milk and good food—and that is practically all one knows about the treatment of tuberculosis to this very day.

It is true that we now use lung operations, such as artificial pneumothorax, by which the lung is collapsed with gas; and the phrenic exaeresis operation, by which we cut and remove the phrenic nerve on the affected side, thus paralyzing the diaphragm and resting the lung; and, as a last resort, we use the thoracoplasty operation, by which all of the ribs on the affected side are removed and so, by collapsing the chest wall, rest the lung. These are radical measures, however, and are unnecessary in the great majority of cases if the diagnosis is made early enough.

The three main fundamentals of the modern treatment of tuberculosis today remain as they were in the time of Greek physicians: namely, rest, good food, and climate. Climate, starting with the ancients, is the oldest form of treatment that has withstood the coming of scientific medicine.

The impetus given to the study of tuberculosis by Dr. Koch's discovery of the tubercle bacillus in 1882 was widespread. During the past fifty years the cold analytical light of science, and its research work, has been thrown upon the question of climate and upon its value in the treatment of disease.

Dr. Gardiner, a pioneer in tuberculosis work, has for more than thirty-one years been calling attention to the strikingly low number of tuberculosis cases and to the low mortality rate among the resident population of health resort towns in the high inland plateau regions in this country, which he attributes to the low relative humidity.

Dr. Jaquerod of Lysin, Holland, writes in a recent booklet: "When we studied the distribution of tuberculosis in different countries we discovered that the disease was almost unknown among the inhabitants of certain mountainous regions where the climate was cold but very dry and sunny. From that time consumptives were sent to the mountains, and their stay produced so remarkable an effect on many of them that the cure of high altitudes was soon accepted in the profession.

As a result of the research work which shows the value of climate, public opinion, as is usual, went to the extreme of sending West every individual with lung trouble and tuberculosis. No thought was given to the stage of the disease the patient was in, finances were not considered, and many a sorry unnecessary picture of starvation and privation was seen in the friendly Southwest.

When our x-ray technique became better developed, the doctors were able to detect cases of early healed tuberculosis in those that never knew they were sick and had never left home. As a result of this and of the fact that many active cases refused to leave home, or for one reason

or another were unable to leave, it was deemed advisable to build sanatoria at home, and it wasn't long until there were political and private institutions all over the United States.

The time wasn't long until the opinion was prevalent that climate was unnecessary and absolutely valueless. The unfounded opinion was widespread that once a patient goes West he must remain West. At the Valmora Sanatorium, which is the oldest sanatorium in the state of New Mexico, you find records of graduate after graduate who are living in all parts of the world except the tropics.

It is true, that there are people living and working in the Southwest who cannot live anywhere else. The disease had such a hold on them that it was incurable, but in the favorable cool sunshine and dry climate of the Southwest they are still alive, living active and useful lives, but if they had remained at home, they would have been dead years ago. However, if any of these patients return home for a visit for any length of time, they undergo another relapse. Yet, in spite of these cases, the antagonists of climate claim that climate has no value. And so, until recently, the beneficial effect of climate has been unduly minimized.

The pendulum of public opinion and of the profession swung from one extreme, where climate was a panacea and cure-all, to the other, where climate had no value whatever. During the past few years the pendulum has been on its way back, and those of us who are practicing in the Southwest hope to keep the use of climate within rational bounds. That this is difficult today is shown by our present vitamin hysteria. Even the medical profession of Europe is not unwilling to earn an extra dollar by advising us inmagazine advertisements to use So-and-So's vitamin yeast for everything from dandruff to the seven-year itch.

The first important factor in the climate of the Southwest is the great amount and quality of the sunshine. That the rays of the sun are healing is disputed by no one today and in the treatment of tuberculosis sunshine is particularly valuable. In bone, throat, and intestinal tuberculosis it is almost a specific. We can cure cases today that before the use of sun treatment were considered hopeless. That in most of the United States there is not sufficient sunshine is shown by the records of the United States Weather Bureau, and the manufacturers attempt to sell canned sunshine with their sun-lamps and their irradiated food stuffs or bottled sunshine. The records of the Chicago Health Department show that in all of the winter months little if any of the curative rays of the sun can penetrate the veil of smoke and dust that hangs over Chicago.

In the Southwest the sun's rays are powerful, because of the altitude; there is approximately one mile less of atmosphere for the rays to penetrate and be absorbed by. Next, the sun shines most every day. During the past year there were only six days when we did not see the sun. And finally, the temperature all the year around is so comfortable that it is a pleasure to remain out of doors in the sunshine. Our patients who are taking heliotherapy lie out naked in the sun all year around.

The absence of these rays in the Chicago sunshine is one of the reasons given for epidemics of colds, influenza, and pneumonia in the city each Spring. We do not have these epidemics in Valmora; in its twenty-seven years of existence there has never been one single case of pneumonia develop in the sanatorium.

The second important factor in the climate of the Southwest is the altitude. We are approximately one mile higher than Chicago. This altitude improves anemic conditions by causing an increase of the red blood cells of the body. It increases the resistance to disease by causing an increase in the white cells, and, according to Sir Stuart Tidy of London, altitude with its lessened barometric pressure favors healing of the lung because of the lessened tearing of the scar tissue that is forming.

And third, the low humidity, the coolness, the pureness of the atmosphere, and the motion of the air have been proved, by the recent physiological experiments of Dr. Leonard Hill, to assist radiation and evaporation of the skin which has a very valuable effect on the digestion and assimilation of food, and its conversion into energy of all kinds.

In short, the climate of the Southwest has a marked stimulating effect on the human body, causing an increased appetite and activity of the metabolic processes, producing more strength

and pep, causing an increase of the bodily resistance to disease, and promoting healing.

In the treatment of any disease in which the use of fresh air is a factor it certainly is desirable to live in a climate which permits rest in the open air to be a pleasure rather than hardship. It is known that warm or hot moist climates and weather, such as the middle west suffered from last summer, depresses many of the bodily functions; the stomach and the intestines are less active, the appetite is poor ,evaporation from the lungs is slight, perspiration is profuse, the kidneys are over-excited, all of which produces a torpor of body, and mind. That such weather is harmful for patients with tuberculosis is evident.

At the same time you of Chicago were experiencing such disagreeable weather and intense heat last summer, we, in the Southwest, were enjoying comfortable days and using blankets to sleep under at night. It was hard for us to realize how uncomfortable you people were, but we feel mighty sorry for the patients who had to lie in bed under such exhausting conditions, who instead of being built up physically had to use most of their strength to combat the heat instead of fighting the disease.

Dr. Bullock made a careful analysis of statistics based on three sanatoria in the Southwest at an altitude of approximately 6,000 feet, and representing about 3,000 patients, and of four sanatoria in the East with the same number of patients. Only those patients who obtained an arrest of the disease were considered, and he found that the patients treated in the Southwest had better chances for obtaining an arrest as follows:

(A) Minimal cases—a 9% better chance.

(B) Moderately advanced cases—a 17% better chance.

(C) Far advanced cases—a 6% better chance.

In conclusion: The most bitter critics of climate grant that climate is from 5% to 15% of the factors in a cure, and while the proponents of climate claim a much higher percentage, if we agree with the 5% people, we must admit that climate is an important enough factor, often the difference between life and death, and any sensible person who can, will take advantage of it.

ORBITAL CELLULITIS AND ABSCESS SECONDARY TO SINUSITIS*

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Orbital infections in children most frequently are due to sinusitis, particularly ethmoiditis.

The anatomical conditions in children which contribute to the formation of orbital infections are congenital dehiscences along the ethmo-maxillary suture, in the lamina papyracea, or in the orbital wall of the maxilla. An additional factor is the more profuse development of the lymphatic and vascular systems in children than in adults. Consequently the infection may be transmitted to the orbit from the sinuses by way of the blood or possibly by way of the lymph stream without any bony perforations.

Orbital abscess with exophthalmos due to sinusitis is not common and when present is almost always unilateral. The pus in some cases does perforate directly in to the orbit. It may also burrow its way anteriorly beneath the periorbita to the eyelid where it may rupture spontaneously. The case to be reported is a bilateral orbital abscess secondary to sinusitis.

REPORT OF CASE

G. L., a baby boy, 3 months of age, admitted to the Evanston Hospital on September 4, 1929, with a history of fever, red throat and head cold beginning two days before admission. The day before admission, the right eyelid became swollen with a bloody purulent nasal discharge from the right nostril. By evening the right eyeball had definite exophthalmos with marked edema of the eyelids and periorbital tissue. The cornea of the right eye was also edematous. Tenderness on pressure was present throughout the right orbital region.

The right orbit and right ethmoid were opened externally by making an incision around the upper and inner angle of the orbit. The ethmoid and right antrum were also drained intranasaly. The culture of the pus revealed streptococci predominating with some staphylococci.

Two days later (second postoperative day) the left eye lids and periorbital region became edematous, but with no nasal discharge from that side. The left eyeball was moderately proptosed. With no localized swelling over the left ethmoid region and with the left nasal cavities approximately normal and with the exophthalmos of the left eye following an exophthalmos of the right eye, it was felt that we might be dealing with a cavernous sinus thrombosis following an acute ethmoiditis and orbital abscess of the right side.

*Read before Section on Eye, Ear, Nose & Throat, Illinois State Medical Society, May 5, 1931, E. St. Louis.

RECORDS OF CHILDREN'S MEMORIAL HOSPITAL, 1923 TO 1930 (INCLUSIVE)

Patient	Age	Diagnosis	Treatment	Temp. Fahr.	W.B.C.	Days in Hosp.	Organisms	Remarks
1. H.M.	5 yrs.	Orbital cellulitis, left.	Spontaneous recovery with discharge from nose.	100 to 104	24300 to 30000	6		Periorbital swelling with marked pain. X-Ray shows cloudy left ethmoid. Eyeground negative.
2. R.C.	7 yrs.	Orbital cellulitis, right.	Anti-diphtheritic, recovery.		13000	27	Klebs-Loffler bac.	Right eye had been removed 2½ yrs. ago. Orbital tissues infected with K. L. bacillus. Culture also positive from nose and throat.
3. L.N.	4 yrs.	Orbital cellulitis, right.	Spontaneous recovery.	100.4		7		Orbital swelling beneath right eye. Cheek swollen. X-Ray shows cloudy right antrum.
4. J.G.	5 yrs.	Orbital cellulitis, left.	Spontaneous recovery.		11000	4		Periorbital swelling with closure of eye. Cheek swollen. Pus from right nostril. X-Ray shows cloudy left ethmoid and antrum.
5. I.R.	4 yrs.	Orbital cellulitis, left.	Spontaneous recovery.	100.4	21800	9	Streptococcus hemol.	Periorbital swelling with complete closure of eye. Head cold for past week.
6. T.L.	4 yrs.	Orbital cellulitis, left.	Spontaneous recovery.	102.8	12400	9	Streptococcus.	Periorbital swelling which followed a similar swelling 2 weeks before.
7. J.P.	4 mos.	Orbital abscess, left.	Spontaneous rupture in outer canthus of eye.	103	18000	18	Staph. albus.	Periorbital swelling, proptosis of left eye. X-Ray of sinuses negative. Ulcer of cornea. Paresis of left external rectus.
8. S.L.	2 yrs.	Orbital cellulitis, right. (abscess?)	Spontaneous recovery.	100.8	10400	10		Periorbital swelling. Slight proptosis. X-Ray shows cloudy left ethmoid and antrum.
9. J.L.	1 yr.	Orbital cellulitis, left.	Left ethmoid drained. Recovery.	102 to 105	14600 to 18900	30	Pneumococcus.	Periorbital swelling of left eye which healed after ethmoid drainage. Later periorbital swelling of right eye healed spontaneously. Profuse nasal discharge left eye. X-Ray of orbit negative.
10. M.F.	5 yrs.	Orbital abscess, left.	Spontaneous rupture at inner border of lower lid. Recovery.	102	18600	15		Periorbital swelling. Proptosis forward and outward. No nasal discharge. Slight movement of extra ocular muscles.
11. C.A.	9 yrs.	Orbital abscess, right.	Orbital abscess drained from behind eyeball. Recovery.	102.4	14200	36	Staph. aureus.	Periorbital swelling. Propotosis. External operation on ethmoid and window in antrum. Osteomyelitic process of roof of mouth in midline with fistula formation. Spontaneous pus discharge from right lower lid. Eyegrounds negative.
12. A.B.	8 yrs.	Orbital cellulitis.	Spontaneous recovery.	99		8		Periorbital swelling past 10 days following measles 2 weeks ago. No pain or tenderness.

The following day (third postoperative day) a fistula was found above the right upper canine tooth which apparently had its origin from the orbital cavity or possibly from the maxillary antrum.

The next day (fourth postoperative day) a fluctuating swelling was found at the inner border of the lower right eyelid. This was incised with a profuse pus discharge. Pus continued to discharge from the maxillary fistula for several days. The discharge from the right orbital incision gradually stopped. He seemed much better until metastatic pneumonia developed from which he died on the eighth postoperative day.

The autopsy showed a complete drainage of the right ethmoid and orbital cavity. The left ethmoid and orbital cavity contained thick greenish pus but with very little intranasal evidence of this contained pus. The cavernous sinus held no thrombus, but pus was found outside the cavernous sinus membrane, apparently originating by way of an osteomyelitic process of the sphenoid bone. Numerous abscesses were found in both

lungs with complete solidification of both lower lobes and solidification of the right upper lobe.

The records of all cases of orbital cellulitis and orbital abscess from sinusitis were searched at the Children's Memorial Hospital, Chicago. Only twelve cases were found on record. This is a surprisingly low number when considered in relation to the large number of children admitted per year. Of these twelve cases, eight were of orbital cellulitis only and three with orbital abscess with one case (Case 8) diagnosed as orbital cellulitis with the possibility of an orbital abscess being present inasmuch as a slight proptosis was reported as being present.

One child (Case 2) had a diphtheritic infection of the orbital tissues following a diphtheritic infection of the nose and throat. This child had had the eyeball removed 2½ years before and should not properly be classified as secondary to a sinusitis.

All of the orbital cellulitis cases recovered without operation with the exception of Case 9 which recovered after the ethmoid was drained. Case 8 in which a possible abscess in the orbit was present also made a spontaneous recovery. Of the three remaining cases of orbital abscess (Cases 7, 10 and 11) two had a spontaneous rupture. Case 7, due to a staphylococcus albus infection with periorbital swelling, proptosis and paralysis of the external rectus recovered after a spontaneous rupture in the outer canthus of the eye.

Case 10, with periorbital swelling, proptosis forward and outward and with impaired extraocular muscles, recovered after a spontaneous rupture through the inner border of the lower lid. This case was marked by having no nasal discharge.

Case 11, with a staphylococcus aureus infection, developed a periorbital swelling with proptosis. The child recovered after an external operation on the ethmoid and an antrum window. An interesting finding was an osteomyelitic process of the superior maxilla with a fistula opening in the midline of the roof of the mouth. Later a spontaneous pus discharge occurred from the right lower eyelid.

Summary. Of the eleven cases of orbital involvement eight made a spontaneous recovery with no drainage other than that provided by the natural orifices of the nose. Two of the cases drained by a spontaneous rupture through the orbit, one through the inner canthus and the other through the outer canthus of the eye. The two remaining cases recovered after surgical interference. In one case the ethmoid was drained and in the other patient the ethmoid and orbit were drained. All cases recovered.

The temperature varied from 99° F. to 105° F., with an average of about 101.6° F. The white blood count varied from 10,400 to 30,000 with an average of about 16,300.

The organisms were recorded in six cases. A streptococcus was found in two instances. A Klebs-Loeffler, pneumococcus, staphylococcus albus and a staphylococcus aureus were found once each.

DISCUSSION

Dr. C. F. Yerger, Chicago: The lymphatic route of infection from the sinuses to the orbit has never been proven. The orbit does not contain any lymphatic glands. When the infection is not by continuity it occurs by retrograde infective periphlebitis and thrombophlebitis. Ophthalmological examination should be made in every case. The data obtained may give valuable information. In the adult, this should include the visual acuity, perimetric and campimetric tests, and in all cases an ophthalmoscopic examination should be done at frequent intervals. I have more than once decided on an immediate and radical operative interference on account of the presence of a papilledema and have also deferred operation because of the absence of any optic nerve complication. Serious and irreparable loss of vision may occur as the result of operation being delayed too long in the presence of unrelieved pressure on the optic nerve. Many of these cases recover under the conservative or non-operative treatment. These are the cases of cellulitis which have not gone on to abscess formation. Where an abscess has formed it must be drained. If a superficial fluctuating area presents itself simple incision and drainage may suffice; or if such an area can be located by means of an aspiration syringe, the same treatment is applied. When a more radical operation is needed, I prefer the external ethmoid operation to an intra-nasal operation for the drainage of the orbital abscess.

Dr. W. V. Mullin, Cleveland, Ohio: I would like to mention the maxillary sinus as being a great possibility in these cases in children. We have had six cases this year where I am sure that orbital edema was due to the maxillary sinus. In several I found it from washing the maxillary sinus. One happened to be in the form of an exophthalmia. It started with a severe head cold, and one evening there was edema. When I got there I found them very much upset and they were going to operate. I said no, not without further evidence. X-ray showed involvement of the maxillary sinus.

I am thinking of Dr. Ballenger's case of the infant three months old: The ethmoidal sinus would be negligible as compared with the maxillary, and you had,

I believe, a fistula above the tooth, which would also point to that. I note you said the ethmoids were found perfectly clear at postmortem; on the opposite side you did not find pus. I wonder if you investigated the antrum on the opposite side on postmortem. One 14 year old boy was taken to the hospital in convulsions, with an orbital edema. There was a purulent infection of the maxillary, and on washing it out several times the edema disappeared. He had a high leucocyte count for a long time after the edema disappeared.

Dr. M. F. Arbuckle, St. Louis: It is surprising to note the infrequency of orbital complications when compared to the great frequency of sinus infections. In some of the cases at least that I have seen the matter of differential diagnosis between orbital cellulitis and cavernous sinus thrombosis was very urgent and not easy. That I think can usually be accomplished by x-ray examination of the sinus, rhinological examination of the eye grounds and consideration of the general condition of the patient.

Proptosis, with or without deviation from the normal position, i. e., straight ahead, is an important sign.

Dr. Howard C. Ballenger, Chicago (closing): Both ethmoid sinuses contained pus. The right ethmoid was found in a purulent condition at the operation. This was found in a healing condition without pus at the autopsy. Pus was found in the left ethmoid sinus at the autopsy.

The right antrum was definitely involved as shown at the operation and at the autopsy. The left antrum was not examined.

All of the infant's symptoms pointed to the ethmoids as being the primary cause of the orbital abscess in both eyes.

Many cases of orbital edema or abscess in infants may be due to an antrum infection, however I believe the ethmoids are the most frequent cause both in children and in adults.

Had we had an opportunity to drain the left ethmoid and orbit before the pneumonia developed, I believe the child could have been saved.

ELECTROSURGICAL EXTIRPATION OF THE TONSILS IN THE TUBERCULOUS*

Preliminary Report

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CHICAGO

The favorable influence on the general health of removing infected tonsils is well recognized. In the presence of pulmonary tuberculosis, however, surgical removal is not always advisable. A tradition which has existed for years in some of the leading sanitoria forbids the surgical removal of the tonsils unless the pulmonary disease has become arrested. Whether this tradition is founded on the basis of experience, or whether it is due to our realization of the frequency of pulmonary complications following tonsillectomy is at present unsettled. The fact remains that over a four year period almost 50 per cent of 950 cases of lung abscess reported by observers[1] in this and other countries occurred subsequent to tonsil removal. According to Hedblom,[2] of 692 cases of pulmonary abscess observed at the Mayo Clinic, 21 per cent. followed operative procedures and of these postoperative abscesses 31 per cent. followed tonsillectomy.

Mode of Infection. Fetterolf,[3] contends that the mode of infection is a matter of much debate, but that the factors concerned are, among others, the condition of the patient, both local and general, the anesthetic, the details of operative technic and the postoperative treatment.

As to the pathway of infection much diversity of opinion exists. Fetterolf and Fox[4] conducted experimental studies of the operation area and found that "there are present hemorrhages, thrombi, necrosis and bacteria." These investigators state: "Hemorrhage causes rifts in the tissues, opens pathways for infection and destroys tissue. Trauma and disturbed blood-supply result in necrosis. Injured blood-vessels are closed by coagula which may become infected and loosened. Bacteria are carried into the tissues by physical force and are permitted to penetrate by the opening up of tissue clefts, especially when there has been some devitalization. These are present in an area which never can be put at rest, which constantly is open to reinfection, and which is subjected to a great deal of constrictor muscle action."

In the presence of a previously diseased area of the lung, such as a tuberculous focus, Fetterolf and Fox believe that the lesion might be activated by the dislodgement of either a sterile or a septic thrombus. Investigations thus far conducted point to the venous and tracheobronchial pathways as the prevailing ones by which the lungs may become infected.

Tonsillectomy in the Tuberculous. In spite of the apparent dangers of surgical tonsillectomy when a tuberculous focus of the lung exists, workers are still at variance in their opinions and base their contentions on personal observations

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*From the Department of Otolaryngology of the Municipal Tuberculosis Sanitarium, Chicago.

*Read before Section on Eye, Ear, Nose & Throat, Illinois State Medical Society, May 6, 1931, E. St. Louis.

and experiences. Thus Newhart,[5] in his institution, The Glenn Lake Sanitorium for Tuberculosis, established the principle that the tuberculous patient should be given the same opportunity for physical gain through the removal of pathological tonsils as is given the non-tuberculous patient. Between 1919 and 1925, Newhart and his associates performed 122 tonsillectomies on tuberculous individuals, 81 under local and 31 under general anesthesia. Of the 122 cases the ultimate outcome was unsatisfactory in only one.

Dennis,[6] in 1917, collected 34 cases in which tonsillectomy was carried out in tuberculous subjects, and he followed up 22 of these cases after operation. Of the latter the results were *distinctly* good in 17, poor in 3, and of no effect in one. Five of the patients had laryngeal tuberculosis, one tuberculosis of the pharynx, and one middle ear tuberculosis. Ether was administered in 5 cases, local anesthesia in the others. Two of the patients who had received ether anesthesia did poorly afterwards. Dennis advises choosing a time for operation when the general condition is favorable and the lungs relatively quiescent.

Ross[7] believes that active tuberculosis of the lungs is very prone to light up and spread rapidly under the depressing effect of operation and cautions that surgical treatment of all tonsils in the tuberculous should be avoided if possible.

Studies by Weller[8] led him to conclude that tonsillectomy is indicated in any suspected latent cases in which the cervical glands are enlarged, and is usually followed by reduction in the size of the glands. "Again, in early pulmonary tuberculosis, if latent disease of the tonsil is suspected, removal will cause no harm and the patient is well rid of the infectious focus. In advanced cases of ulceration, however, with lung disease, there is no advantage to be gained by tonsillectomy, and in many cases harm may be done. In these cases only local applications to relieve the symptoms are advisable." According to Weller, removal is certainly contraindicated in the presence of rales or consolidation.

Benjamin Goldberg,[9] medical director of the Chicago Municipal Tuberculosis Sanitarium, states:

"Tonsil disease is not infrequently responsible for both local and systemic manifestations which interfere with a favorable progress in pulmonary tuberculosis. The eradication of an extra-pulmonary non-tuberculous disease focus is important because such a focus hinders the natural protective mechanism of the body toward healing of the tuberculous process. I have observed the results of surgical tonsillectomy in numerous patients. New or increased pulmonary exudative involvement with activation and extension of the pulmonary tuberculosis are not uncommon. The factors responsible for them are: 1. Aspiration of blood, pus and debris from the upper respiratory tract into the fine bronchioles and alveolar structure; 2, embolic circulatory manifestations, infective or otherwise, opening the pulmonary area; 3, trauma and its effect upon the vegetative nervous system; 4, nutritional imbalance associated with painful deglutition, which, over a period of several days, may be sufficient to destroy the favorable body chemistry and aid in producing an increased permeability with new exudation. Any method of tonsillar removal or extirpation which will preclude the possible occurrence of the factors cited is an important contribution to the therapy of tuberculosis."

Electrocoagulation of the Tonsils. In an attempt to overcome the hazards of surgical tonsillectomy in the tuberculous, twenty adult patients with varying degrees of pulmonary disease were selected for electrocoagulation of their tonsils. About half of the number in the series came under the classification of "far advanced." Six of these had definite tuberculous involvement of the larynx with marked hoarseness. The remaining ones were classified under "minimal" and "moderately advanced." In every instance tonsillectomy was indicated because of repeated attacks of sore throat, local gross pathology, or some coexisting disease attributable to the tonsils as a focus of infection. The plan followed was fractional extirpation. In some only a small area was treated at a single sitting. In others larger areas were coagulated. The extent of local tissue reaction which followed varied with the size of the area treated. The amount of discomfort was likewise dependent on the size of the area included in a single coagulation puncture. No definite number of treatments was set for the completion of the work. The purpose of this experiment was to determine whether the tonsils could be extirpated, irrespective of the time or number of treatments, without deleterious effects on the progress of the pulmonary disease. The anesthesia consisted of topical applications of a ten per cent. cocaine solution, preceded in a few instances by the administration of a single ten grain dose of barbital.

At this writing, in only a few patients have the tonsils been completely extirpated. How-

ever, a sufficient number of treatments have been administered in every case over a period of from one to five months to permit the conclusion that the method produces no harmful influences on the pulmonary disease. Nor has there been observed any aggravation of the laryngeal infection. Aside from a local tissue reaction and a slight discomfort in swallowing which in no instance lasted more than twenty-four hours, there were no untoward symptoms. The patients partook of their regular meals and followed their usual sanitarium routine. After the first treatment to either tonsil there was a definite reduction in the size of the opposite one. This observation has also been noted by other workers.

Rationale of Electrosurgical Removal of Tonsils in the Tuberculous. The rationale of electrocoagulation of the tonsils in the tuberculous can be explained on the basis of several factors. If, as Fetterolf[10] believes, hemorrhage causes rifts in the tissues and opens pathways for infection, electrocoagulation overcomes these difficulties because it is nearly always a bloodless method. Secondary hemorrhage may occur, but its incidence is infrequent. There is a minimum of trauma when correct technic is employed. Each area is immediately dehydrated and sterilized by the procedure. There is no physical force to carry bacteria into the tissues, nor are tissue clefts opened up to permit their penetration. While the surface coagulum is open to reinfection, this reinfection cannot extend beneath the area coagulated because of the sealing of blood vessels and lymphatics and the production of a local active hyperemia.

These are some of the important factors which obviate the possibility of dislodgment of thrombi into the blood. When using this method the possible deleterious effects of septic mouth and tonsil contents which occasionally enter the trachea can safety be disregarded. A further desirable feature is the fact that electrosurgery of the tonsils can be performed without infiltration or general anesthesia.

Slow Convalescence and the Factor of Nutrition. Richards[11] contends that tonsillectomy in adults is always a major procedure and is often followed by great general relaxation and a slow return to normal health and strength. "This may occur in cases where the operation has presented no particular difficulty and where normal healing of the wound has followed in the usual time and without complications." Slow convalescence of surgical tonsillectomy is due chiefly to the fact that patients are unable to swallow a sufficient amount of nourishing food to adequately maintain them. Even liquids are refused because of the discomfort of deglutition. Dehydration is more than occasionally observed. The consequences of inadequate nutrition have not been sufficiently stressed. It is often a problem in the postoperative treatment of the non tuberculous patient; it is always a problem in the tuberculous. Electrosurgical extirpation of the tonsils, when correctly performed by the fractional method, obviates these difficulties. As has been pointed out, the patients partake of their regular meals and follow uninterruptedly their customary routine.

Comment and Conclusions. This preliminary study reveals the possibility of eliminating the hazards of surgical removal of the tonsils in the tuberculous by fractional extirpation with diathermy. A total of more than two hundred electrocoagulation treatments was given to twenty patients without harmful reactions and with no deleterious influence on the pulmonary disease. The chief advantages of fractional electro-surgery are: 1. The absence of primary and the infrequence of secondary hemorrhage; 2. Trauma is reduced to a minimum as compared to surgery; 3. Sterilization of the tonsils takes place after one or more treatment; 4. Slow convalescence and interference with regular nutrition are definitely avoided.

If further studies lead to results similar to those reported from this small series, diathermy should be seriously considered as the method of choice for the removal of diseased tonsils in the tuberculous.

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DISCUSSION

Dr. W. A. McNichols, Dixon: I enjoyed both the papers, and I am asking for information. One of the worst secondary hemorrhages I have ever seen occurred ten days after such an operation. I endeavored to stop it with local applications, but it persisted for about ten days. The blood was examined and there was no apparent reason for the hemorrhage. The one tonsil kept it up, and finally I infiltrated and took it out and that stopped the hemorrhage. At the University of Iowa numerous tonsillectomies are performed on tubercular patients; the cases are very carefully selected. The chief of the staff in the tuberculosis department tells me they do not find that a tonsil operation under orthodox methods on carefully selected tuberculous patients has any bad effects.

Dr. W. V. Mullin, Cleveland: I like the conservative tone Dr. Hollender put into his paper regarding caution with tuberculous patients. I happen to know rather intimately the cases Dr. Dennis selected when he wrote that paper. I know they were given careful consideration before operation. There is one very definite maxim that can be thought of in connection with these patients—they do not stand any surgical procedure. It is a matter of always starting with that idea in mind. They do not stand surgery. I can readily see that the fractional method which the doctor advises is applicable.

I cannot agree with Dr. McNichols about these tuberculous patients going through tonsil operation as well as other patients. I think that is rather the keynote of the thing. To know tuberculosis you have to live with it. In selecting these cases they must be taken up thoroughly with the director of the tuberculosis sanitarium and he must know the case and know which cases can stand it and which cannot.

Following the war we were full of sympathy for the blind, for the deafened and for the maimed. They have all been rehabilitated and are on their way, enjoying themselves through life. But the tuberculosis sanitariums are still full of patients as a result of the war. In any other type of sanitarium you can have a Christmas celebration, entertainers, visitors and friends come in, but if you do this sort of thing in the tuberculosis sanitarium all the pulses and temperatures go up. All you can do for other people that would seem to be right is bad for them. One doctor got the idea of massaging the infected tonsils and working out the infection from the crypts. He very consistently gave them all temperatures. Perhaps it may be too soon to know whether there are any untoward effects from this electrocoagulation procedure, but I believe not. Tuberculosis is so slow in everything about it, and you may pay four or five months from now for some overdoing that occurs today. These tuberculosis patients can stand manipulation and the electric cautery, and they might stand this, but surgery I am opposed to.

Dr. F. B. Balmer, Chicago (closing): I do not know why there have not been more severe complications following electrocoagulation of the tonsils, especially when one considers the sources of instruction. The complications that Dr. McNichols referred to have occurred and no doubt will continue to do so unless the same careful technique is employed as in good surgery. I am sincere in doing a good clean surgical tonsillectomy with the control of the situation at hand and no less so with electrocoagulation. The method I have presented for coagulation is essentially conservative as it should be, reducing complications to a minimum. This slow process of gradual extirpation of the tonsils is essential to safety and success. I appreciate Dr. Mullins' discussion of my paper and especially the statements concerning the tuberculous patient. I consider Dr. Hollender's paper a distinct contribution to this subject. It is very gratifying to sense the feeling of appreciation and acceptance of one's views as manifested by those here today and especially with a subject as controversial as is tonsillectomy.

*Dr. Balmer's paper was publisbed in December, 1931.

*This discussion followed papers by Dr. Hollender and Dr. Balmer.

X-RAY THERAPY IN SKIN DISEASES*

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CEDAR RAPIDS, IOWA

Although we are still unable to explain every phase of the action of radiation on the living cell the law of Arndt-Schulz that small doses of x-rays stimulate cells, medium doses inhibit the growth of cells, and large doses destroy cells, is a simple, and in many respects a very satisfactory, statement of what is known about the action of x-rays upon normal tissue.

There is no selective effect of x-rays, and the fact that certain highly differentiated cells may be destroyed, or inhibited in their growth, by doses too small to produce any visible effect on ordinary epithelial cells, is easily explained by the different susceptibility of various types of tissue. In a general way sensitivity to radiation is proportional to the degree of differentiation. The testicle, ovary, stratum germinativum of the epidermis and the cells of the sweat and sebaceous glands and their hair follicles are all easily affected by radiation.

*Read before Section on Radiology of Illinois State Medical Society, May 7, 1931, East St. Louis.

Among diseased cells which show a pronounced sensitivity to the action of x-rays are those of hyperplastic connective tissue, and young rapidly growing cells of the embryonal type. Excessive growth of the cells of the horny layer of the skin is checked by the action of x-rays. The analgesic effect of x-rays is also well known although we do not exactly understand how it is produced. It is used mostly for the relief of itching and neuralgic pain. Contrary to what was once a common belief, x-rays do not kill bacteria. They are, however, used with good result in several inflammatory conditions.

In a general way, therefore, x-ray therapy is indicated when it is desirable to produce the following effects:

1. Stimulation.
2. Inhibition of the growth or function of glands.
3. Solution of hyperplastic connective tissue.
4. Reduction of lichenification.
5. Relief of pain or itching.
6. Reduction of inflammation.
7. Destruction of malignant growths.

Stimulation.—It is probable that there is no true stimulative effect of x-rays, and that the changes which we speak of as due to a stimulating dose are really processes of repair following an injury caused by irradiation. This conception of stimulation is not so paradoxical as, at first thought, it may appear. Sunlight, for instance, is undoubtedly stimulating, and yet the initial effect of sunlight in an amount large enough to produce evidence of simple inflammation can hardly be anything but injurious to the cells of the skin. Perhaps, in spite of all our theories, we might be nearer the truth if we held the simple belief that the individual cell is always injured by the action of x-rays, and that the degree of such injury depends upon, first, the size of the dose received, and, second, the sensitivity of the cell to radiation. The so-called stimulative effect of x-rays is used in many skin diseases, especially those characterized by sluggishness and dryness.

The occasional rapid growth of a malignant tumor during or following x-ray treatment is sometimes accounted for by the theory that a stimulating dose of x-rays has increased cell proliferation. In almost every case of a large tumor with metastases, the dose to individual cells throughout the part irradiated must vary from zero in the most remote part up to the maximum dose delivered to the nearest cells. Some cells, therefore, must always receive a stimulating dose, if such a thing exists. Because of their rarity we can probably correctly ascribe the instances of rapid tumor growth following irradiation to pure coincidence, and conclude that true stimulation of malignant cell growth is *not* produced by x-rays.

Inhibition. X-rays inhibit the function and growth of cells. Differentiated cells, such as those composing glands and hair follicles, physiologically active cells, young cells, cells about to divide, lymphoid tissue and tissue of the embryonic type are all markedly radio-sensitive. It is upon these two facts that a large part of the indications for x-ray therapy depends. It is by them that we are able to explain the results obtained and conversely, they show why x-ray treatment of many conditions is futile.

The list of diseases in which the inhibitory action of x-rays is used is long. It includes, for example, many skin diseases characterized by hyperactivity of the glands, such as acne, seborrhea or hyperidrosis and diseases in which epilation is desirable, such as tinea or favus.

Hyperplastic Connective Tissue. X-rays act as a direct solvent of excessive connective tissue such as that in keloids and dermatitis papillaris capillitii. They seem, however, to have little or no destructive effect on normal connective tissue.

Lichenification. The well known effect of x-rays on overgrowth of the cells of the epidermis, as, for example, in psoriasis, lichen simplex, eczema with thickening, and keratoses, is probably produced by inhibition of cell division and activity.

Anodyne Effect. There is no doubt that x-rays will often temporarily, and sometimes permanently, relieve itching. When the itching is due to an eruption such as eczema it usually disappears when the eruption heals. It is not so easy to explain the relief of pruritus ani by radiation. "If it can be assumed that the itching, in cases of pruritus without visible cutaneous changes and which is amenable to roentgenization, is due to alteration in the collagen or in the sensory terminals or fibrils (inflammation) it is conceivable that radiation acts by inhibiting chemical action and cell proliferation." (X-rays and Radium in the Treatment of Diseases of the Skin. G. M. MacKee, M. D., Page 395.)

It is not so certain that x-rays will relieve pain

except when the pain is due to a lesion that can be cured by irradiation, although many writers have reported what seems to be an analgesic effect upon neuralgic pain.

Inflammation. While x-rays are not germicidal they do exert a beneficial effect upon some inflammatory processes such as carbuncles. (Radiotherapy for Inflammatory Conditions, A. U. Desjardins, M. D., Journal A. M. A., Feb. 7, 1931.) No entirely satisfactory explanation of this effect has been made. X-rays are directly destructive to some fungi such as those causing actinomycosis and blastomycosis. They may have some destructive effect upon tinea epidermophyton, but in tinea tonsurans, tinea favosa and tinea barbae, the effect is mechanical. The hairs fall out and carry the organisms with them.

Destruction. All that has been said about the inhibitory effect of x-rays applies with equal force to their destructive effect. As a rule, it is only upon malignant or potentially malignant growths that the full destructive powers of x-rays are loosed. Because they are composed of young cells and cells about to divide, they are often so sensitive to radiation that they may be destroyed by a dose only mildly injurious to the surrounding structures.

Precautions. While only a relatively small number of skin diseases can be completely and permanently cured by x-rays, they are certainly the most effective agent that we have for the relief of many distressing symptoms. Their effect in healing unsightly eruptions is sometimes so nearly magical that the roentgenologist must resist the importunities of his patients, and his colleagues, to "try" x-rays on many skin diseases for which they are not indicated. If one is treating skin diseases it is only reasonable that he should know something about dermatology, and the conscientious roentgenologist must equip himself with at least a working knowledge of the diagnosis and medical treatment of the common skin affections in addition to perfecting himself in the technical details of his own art.

The first precaution to be observed in the dermatological application of x-rays, is not to be too persistent. Even small exposures repeated over a long period may produce telangiectases and atrophy of the skin. If a disease fails to respond to an ordinarily effective amount of treatment it is usually best to change to something else. In the treatment of psoriasis, for example, it must be remembered that the disease will probably persist throughout the patient's life, that the psoriatic lesions are radiosensitive and react to smaller doses of x-rays than does normal skin, and that even small doses of x-rays cannot be continued indefinitely without some danger of producing atrophy and telangiectases. It is wise, therefore, for both the patient and the physician to be content with results considerably short of perfection.

The second precaution is to avoid over-exposure. With the exception of sarcoma and carcinoma, not many diseases of the skin are dangerous to life, and the disregard for cosmetic results which the roentgenologist properly acquires in treating malignant conditions is not an asset to him in the treatment of minor lesions.

The third precaution is to avoid under exposure. It is not enough "never to do any harm —always to stay on the safe side." Especially in the treatment of skin malignancies the danger to the patient from under-dosage due to timidity is a real one.

In order to increase accuracy and to avoid the dangers of over-dosage and under-dosage there are three practical procedures which may be and should be employed. The first of these is the use of a simplified technic. I am convinced that it is entirely feasible to treat all non-malignant dermatological conditions for which x-rays are indicated with a single combination of technical factors. There can be no argument against always using the same anode-skin-distance and milliamperage, and there seems to be no good reason why a voltage as high as the capacity of the tube or apparatus will permit should not also be a fixed factor. High voltage shortens the time required for treatment, which is a distinct advantage. Variations in voltage and filter thickness affect hardness. Since there is considerable doubt that *great* variations in hardness produce different biological effects, it seems reasonable to assume that many *small* variations are unnecessary. The same argument applies with equal force to the use of many thicknesses of filter. I believe that the routine use of a filter of 1 mm. aluminum will serve every purpose. The use of unfiltered x-rays, except when controlled by exact measurements, can well be abandoned. It is well known that the output from

a new thin-walled tube may exceed by as much as 100% that from an old tube with a thick wall and a pitted target, while if a 1 mm. aluminum filter is used the difference is not more than 30%. The good results obtained by dermatologists from the empirical use of unfiltered x-rays can probably be explained by the larger doses given.

A second practical method of increasing accuracy is for the roentgenologist to have the intensity and quality of the x-rays produced by his standard technics checked at regular intervals by a physicist equipped with an accurate measuring instrument calibrated in absolute units. Such service is now available in many communities and it is hoped that within the next year enough universities and other institutions will be working in cooperation with the United States Bureau of Standards that it can be rendered throughout the country at a reasonable cost.

The most effective method of assuring accuracy and the one which no doubt will be almost universally practiced within the next few years, is the measurement of each dose of x-rays when given by an instrument calibrated in international units. There are at least two American made instruments of proven accuracy and reliability. One is equipped with a large ionization chamber permanently mounted in the path of the rays. The current passing across it is read directly from a microammeter. This instrument can be used as a constant check on intensity with no greater effort or loss of time than is required to observe a milliammeter. It measures x-rays as they are produced, instead of as they are received by the patient and does not register the effect of back scattering. The other instrument is equipped with a small chamber connected to a string electrometer. The ionization chamber is exposed for a definite time, usually one minute, and the number of r per minute is read from a scale. This instrument has the great advantage of being easily used for measurements directly on the skin of the patient. While it is not expected that all, or even many, roentgenologists will measure dosage in absolute units for several years, the cost is not prohibitive, and the roentgenologist who will add a reliable instrument to his armamentarium and use it routinely will be well repaid.

For practical purposes one may assume that, including backscatter, the minimum erythema dose on untanned skin is approximately 250 r; that the epilation dose is 450 r for soft rays; that the skin unit dose as generally used by dermatologists is about 600 r; and that the effective, toleration, or 100 per cent. dose corresponds fairly closely to the maximum safe dose, for various sizes of fields in the following table:

Size of Field in Cm.	Maximum Safe Dose in r.
1 x 1	2500
5 x 5	1500
10 x 10	1200
15 x 15	1000
20 x 20	900

Valid exception might be taken to the accuracy of these definitions, but they lay the foundation for a fairly clear conception of the meaning of dosage in absolute units.

Many of the precautions enumerated in the foregoing paragraphs can be ignored in the treatment of epithelioma. Occasionally we see an epithelioma so resistant to the action of x-rays, or of so high a degree of malignancy, that a cure is impossible no matter how vigorously it is treated. In the great majority of cases, however, I am convinced that failure to cure is due to insufficient treatment. Treatment may be discontinued too soon because the physician or the patient, or both, decides that the healing of the lesion indicates that a cure is complete. More often the patient abandons the treatment because he is frightened by the appearance of a reaction or is discouraged by his friends. For practical reasons, therefore, it is advisable to attempt complete destruction of the epithelioma at once. This can be done by giving the total amount of x-rays required for a cure so rapidly that the series is completed before a reaction appears. Destruction of the lesion by electro-coagulation at the first visit of the patient serves the same purpose, and is entirely proper. Many indurated epitheliomata, especially on the lip, should be excised, but elderly patients often have an exaggerated fear of "the knife" and flatly refuse operation. A dogmatic attitude with these patients merely drives them to a quack, and it is often wise to compromise with them and destroy their lesions by electro-coagulation without much regard for the size and appearance of the resulting scar. Although the cosmetic result of the treatment of epithelioma with x-rays is often surprisingly good, one should not be deterred from using adequate dosage by the fear of sequelae such as

atrophy and telangiectases. Permanent damage to the skin in many cases is to be expected, and should have the same significance as the scar produced by a surgical operation.

X-rays filtered through 3 mm. aluminum or .25 mm. copper are used in all cases. The dose is the maximum that can be safely given, 2,000 to 2,500 r for small areas, and smaller doses for larger areas as shown in the table. The dose can be divided for convenience into several treatments, but the total amount should be given within two weeks. Adjacent glands may be given 1,000 r which can also be divided into two or three treatments. The patients should be kept under observation for at least a year after the epithelioma has healed.

Higley Building.

DISCUSSION

Dr. Edwin C. Ernst, St. Louis: The presentation by Dr. Erskine relative to the many interesting skin therapy problems, with special reference to the practical use of x-ray, is indeed timely. His review of the many methods of treatment, by comparison with the more modern techniques requiring added precision in the application of these accurate dosages, should be given serious consideration by everyone interested in the treatment of skin lesions.

The time is not ripe for us to rely entirely upon output measuring instruments, and we should continue to consider all of the physical input factors, such as voltage, milliamperage, filter, distance, etc. However, it is essential that we should make every effort towards accurately measuring the output of the radiations we employ so as to be in the position of speaking the same dosage language.

We all realize that today we are giving much larger dosages in certain malignant lesions. Frequently one radiologist is able to note a cure, while others find the radiation to have been ineffective, but in the final analysis it was merely a matter of insufficient or inaccurate dosage. This also applies to the question of comparing the individual effects of radium and x-ray in the treatment of skin malignancies. Many radiologists prefer radium. Without discussing the problem further, I merely wish to present my views relative to this matter by stating that in our hands we can almost duplicate the average radium results with x-ray therapy and in many instances with less scarring. There are cases, of course, in which radium is distinctly indicated. Whenever treatment is administered near the eyelids, I prefer the use of x-ray since we observed improved cosmetic results. It is possible that these variations may be simply a matter of dosage, irrespective of the agent employed.

Being a radiologist and not a dermatologist, I am most reluctant to primarily treat skin infections or lesions by radiation. I usually refer them to a dermatologist, and if his treatment dose not produce satisfactory results, will attempt x-ray therapy. There is no question but that a large number of these cases eventually require x-ray treatment.

Relative to the question emphasized by Dr. Erskine of radiation technique simplification, I believe as he does that there is little need for the present multiplicity of techniques, variable voltages, and numerous filters. At the Barnard Free Skin and Cancer Hospital we employ a constant voltage at a fixed distance and routinely only vary the time factor. Occasionally we do not employ filters, but in the average case one millimeter, rarely three millimeters of aluminum is the method of choice, and for the average case is sufficiently flexible and effective.

Many different physicians and technicians are taught to administer these treatments at the hospital clinic from time to time, and since our results have been satisfactory, rarely producing any unfavorable skin injury in the treatment of such a large variable group of cases, such favorable end-results could only be due to the simplification of the method or technique, as well as to the accurate dosage meters routinely employed for this important work.

EMBRYOLOGY OF THE LARYNX*

Olaf M. Steffenson, M. D.
CHICAGO

Organisms and organs develop pretty much in the same manner. Tissue infoldings and tissue projections combined with cell accumulations are the continuous and recurring steps.

The human fetus in its early stage consists of three closed tubes arranged in concentric arcs. The outside tube, curved and folded upon itself cephalad to form the brain, is the largest. The inner tube develops into the heart and blood vessels—the early heart may be seen situated in the neck. The middle tube extends from the cephalic fold of the neural tube above to the caudal extremity of the fetus. It is of special



Fig. 1.

*Read before Section on Eye, Ear, Nose and Throat, Illinois State Medical Meeting, East St. Louis, 1931.

interest to laryngology because the respiratory apparatus develops from its upper portion.

The resorption of the pharyngeal membrane opens the middle tube cephalad between the two branches of the first branchial arch. Communication is thus established between the pharynx



Fig. 4.

and the oral cavity and later with the developing respiratory tract.

The sides of the middle tube are in contact with the remaining branchial arches and in fact sends out projections between them. The dorsal wall of the tube is smooth and continues caudad as the posterior wall of the esophagus.

The sides of the pharynx show four pouches, extending outward and forward between the branchial arches; and from these pouches many important structures are formed.

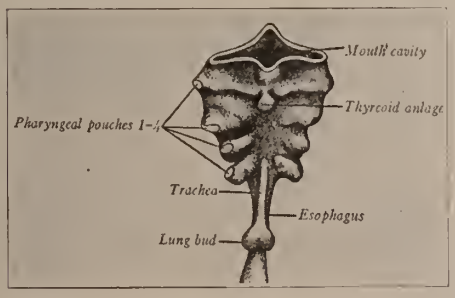


Fig. 2.

The arches diminish in size from above downward and so create a funnel shaped pharynx.

In the second week a longitudinal groove appears on the ventral surface of the esophageal tube at a level with the fourth pouch and this groove extends caudad for a variable distance.

The respiratory groove on the esophageal wall evaginates anteriorly and continues caudad as a budding tube on the front of the esophagus. The posterior borders of the groove constrict, approximate each other, coalesce and form the party wall between the gullet and the air-way.

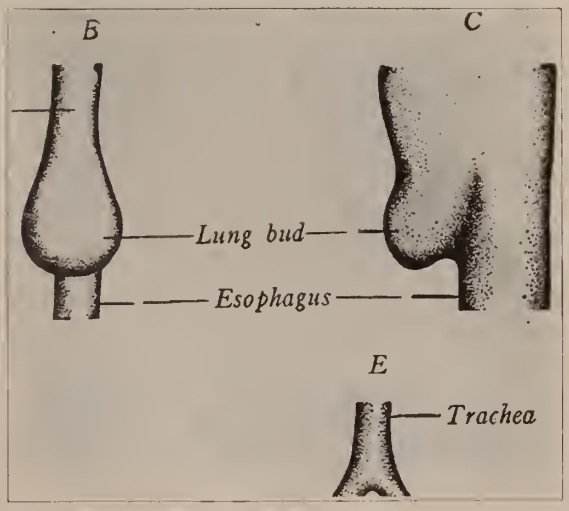


Fig. 3.

This groove and bud in the front wall of the pharynx is the humble beginning of the respiratory system in man.

The upper limit of the respiratory groove develops a raised transverse border—the furcula of His. This prominence is the beginning of the epiglottis and becomes later invaded by mesenchymal tissue from the third branchial arches.

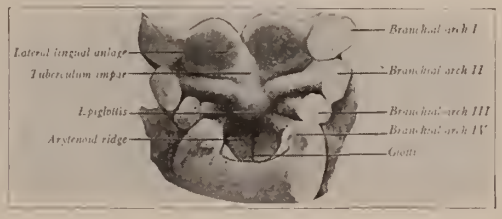


Fig. 5.

At the upper border of the closing edges of the respiratory groove, at a level with the furcula and posterior to this structure, two oval mesenchymal condensations appear and these are the arytenoid eminences—the levers that move the vocal cords—the structures that are so vital to voice production and respiration.

At first their caudal parts are parallel and both arytenoids lie close to the epiglottis. Later they are withdrawn and slide away in a posterior direction from the epiglottis. As a result of this maneuver the ary-epiglottic structures appear

laterally and maginal. The laryngeal orifice is established.

At this stage the hyoid condensation is on the same level as that of the thyroid condensation. The two condensations are bound together with mesenchymal tissue.

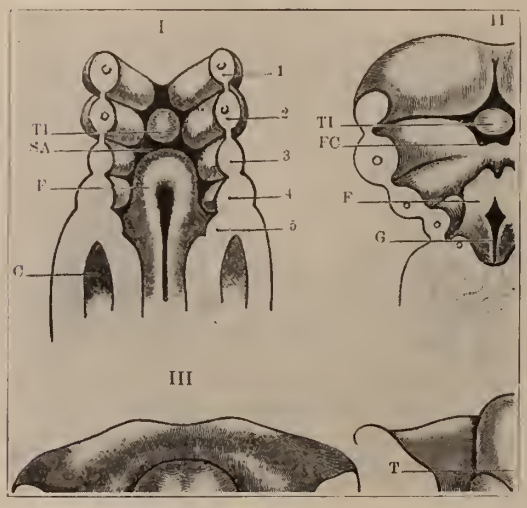


Fig. 6.

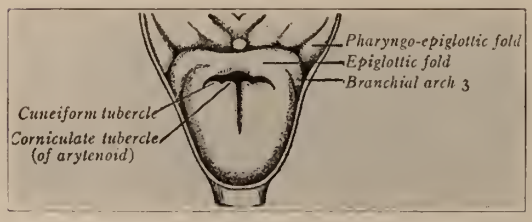


Fig. 7.

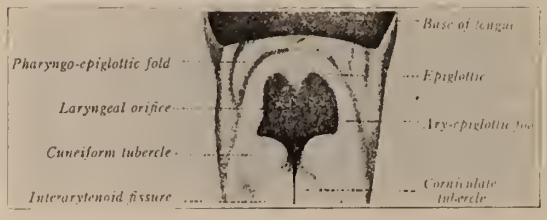


Fig. 8.

As the thyroid structure descends in the neck and elongates to assume the adult shape the original mesenchymal connection pulls up the entoderm lining of the larynx and produces the ventricles of Morgagni, the saculus laryngis and the ventricular bands or as they are commonly known, the false vocal cords.

The branchial arches occupy the sides of the neck. They are bar-like condensations of mesenchyme and fill the areas between the clefts. The arches are incomplete in front but continue to develop and form the supporting substance of the different orocervical structures.

The first arch divides into two branches, one of which forms the upper maxilla and the other develops into the lower mandible.

The second and third arches are concerned in the formation of the hyoid bone and the epiglottis. The fourth and fifth arches contribute to the formation of the thyroid and cricoid structures.

Formation of the cartilaginous structures. At the 10 mm. stage—the five-week-old fetus—the hyoid, the cricoid, and the thyroid regions appear as shadowy condensations of mesenchyme without any trace of condrification. The thyroid looks like a mass, horseshoe shaped, of mesenchyme and the cricoid and arytenoids are just faint indefinite masses of the same material. The epiglottis is only a flattened condensation. There is no sign of an inferior or a superior thyroid horn until the 12½ mm. stage. The thyroid then begins to elongate and spread out its lateral wings away from the cricoid structure.

The cricoid at this stage is mesenchyme and somewhat compressed laterally. The arytenoids may be recognized as oval shaped masses of mesenchymal structure. The epiglottis is wider and the greater cornua of the hyoid bone have developed.

At 16 mm.—the six weeks' fetus—the thyroid is much larger and the posterior portion of the cricoid is enlarging and approaching its adult shape. The hyoid is undergoing chrondrification and is showing the attachment of the middle constrictor to its greater horns.

At 20 mm.—7½-week fetus—the thyroid shows considerable cartilege. Its upper horns are attached to the hyoid and the inferior horns are distinctly in evidence. The cricoid is well developed and partly cartilaginous. The arytenoids are shaped up and are showing islands of cartilage. The cartilages of Wrisberg and those of Santorini are visible and are in their proper position.

Musculature of the Larynx. The laryngeal muscles at five weeks show their position as streaky vague structures in the definite places where they belong. The crico-arytenoideus posticus, the crico-arytenoideus lateralis, and the thyro-arytenoideus are faintly fibrillar. At

12½ mm. the fibrillation in the muscles show well, especially in the postici which are best developed at this time. At 7½ weeks the pharyngeal constrictors are all well developed.

Nerves of the Larynx. The superior laryngeal nerve may be traced as far as the greater horn of the thyroid structure at the end of the fifth week. The recurrent nerve is much better developed and may be followed as far as the regions of the posticus muscle. At 12½ mm. both superior and recurrent nerves may be followed as mixed nerves and at 20 mm.—7½ weeks—the superior laryngeal nerve divides into an internal and external branch at the level of the hyoid horn. The external ramus descends vertically to the crico-thyroid muscle and the internal ramus is distributed to the lining of the larynx as far as the border of the true cords. The recurrent nerve ascending enters laterally at the crico-thyroid articulation and supplies all the intrinsic muscles of the larynx. It also sends sensory fibres to the subglottic area.

Both nerves anastomose freely with each other and with the cardiac branches of the pneumogastric.

CONCLUSIONS

The party wall between the respiratory and the esophageal tract is the result of the peculiarity of the embryonic development and the extent of this wall depends upon the length of the cephalad closure of the posterior border of the respiratory groove.

Malformations are rare in the anterior portion of the larynx. Inequalities, differences in size of component parts, and deformities are generally found only in the posterior part of the larynx—in the areas developing from the groove-borders. The location of eye ball defects is in the inferior part of the globe of the eye and correspond to the plane of ectoderm infolding.

The early epiglottis is omega-shaped and overhangs the inlet of the larynx. The failure of this structure to flatten out and to anteflex results from the lack of development and shows the persistence of the embryonic type.

Absence of the trachea results from the failure of the infra-cricoid tube to elongate: the two bronchi then spring directly from the bottom of the cricoid.

The ventricular bands or false vocal cords are accidental results of the changing position of the parallel hyoid and thyroid condensation masses. The descending thyroid structure permits the original mesenchymal connection with the hyoid to pull up the entodermal lining and so causes the appearance of the upper shelf or band.

The ventricle of Morgagni and the saculus laryngis are the pulled up cul-de-sac of entoderm external to and above the false cord, structures very similar in origin to the bursa pharyngis, another accidental formation.

The true vocal cords are the tendons of the thyro-arytenoid muscles; they vary much in size and texture.

The false cords have no definite fibrous structure in their proper substance. Unlike the true cords the false cords have mucous glands beneath their epithelial cover and are simply accidental results of the ventricle of Morgagni formation.

The coughing induced by irritating the external ear canal and the referred ear pain in connection with malignant invasion of the larynx is readily explained by the inter-communication of the auricular and the laryngeal branches of the tenth nerve and with Jacobson's nerve.

Some of the severe cardiac disturbances incident to coughing spells are explained through the connection of the laryngeal and the cardiac branches of the tenth nerve.

The inferior laryngeal nerve passes directly forward to reach the larynx at the period of development when the fourth aortic arch is situated in the neck above the entrance of the nerve. The descent of the aorta into the chest on the left side and that of the subclavian on the right side carries the respective inferior laryngeal nerve down into the chest cavity and in this manner causes the recurrent course of the nerve trunks.

The ventral portion of the second and third branchial arches converge and insinuate themselves between the furcula and the tuberculum impar. The space posterior to the union of the arches is the sinus arcuatus which divided by the glosso-epiglottic ligament becomes the right and left valleculae.

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DISCUSSION

Dr. Wm. L. Hanson, East St. Louis: I was particularly interested in the paper of Dr. Steffenson's because

of its similarity and relationship to my paper which is to follow.

In review I might state that the first branchial arch forms into two portions, the maxillary process and the mandibular process. The second forms the styloid process and the lesser cornu of the hyoid bone. The third arch forms the greater cornu of the hyoid bone. The fourth and fifth arch forms the thyroid cartilage. During the first month of embryonic life an elevation becomes prominent where the gut opens into the respiratory tube; this is known as the furcula. At the end of the first month an elevation takes place lateral to the furcula known as the arytenoid ridge and a short time later another fold becomes prominent on the medial side of the arytenoid ridge and this is known as the cuneiform ridge.

ACUTE POLIOMYELITIS*

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Ten years ago this fall my father and I read papers before this Society and others on acute poliomyelitis.[1] Clinical features of the preparalytic phase were discussed by him while I spoke on an outline of the pathology and treatment. It was of interest in preparing this paper to go over those two manuscripts and compare some of the statements made therein with those now made, ten years later. The importance of prompt recognition of the acute general preparalytic phase as the disease was emphasized then. It has been stressed through the decade and is still considered the vital factor in instituting treatment. I trust you will pardon some quotations from that discussion as they seem to me to convey their message even more clearly now than heretofore.

"The general systemic phase is the disease as it also is the preparalytic phase or stage of the disease. Paralysis is the accident or result of the disease just as perforation of the intestine is an accident of the disease, typhoid fever, or paralysis following diphtheria is the result or accident of the disease diphtheria. As in typhoid fever, diphtheria or other infections with an aftermath the question of relationship between the general systemic phase and the localized accidents is one of the pathology. In other words, we err in diagnosis when we wait for the paralysis to enable us to recognize the presence of the disease."[1]

General medical literature has stressed during the past decade the features brought out by Peabody, Dochez and Draper in 1912,[2] Wickman in 1913,[3] and Draper in 1917.[4] Clinical studies have emphasized the general infection as being the part of the illness deserving primary consideration. The work of Aycock and Luther[5] and many others has brought to the attention of the physician in general and the physician in public health the characteristics of the illness which had previously been chiefly observed by those having a special interest in it. Experimental poliomyelitis has taught us a great deal about the course, the pathology and more important still the efficacy of immune serum as an agent to neutralize the virus. We here in Illinois are extremely fortunate to have as Chief of the Division of Laboratories of our State Department of Public Health, Dr. H. J. Shaughnessy, who has done a great deal of important research work on the experimental disease. Technical papers by him and his associates are quoted regularly in the literature. His article in the recent number of the *Illinois Health Quarterly* summarizes in excellent fashion present conceptions of the disease.[6] I think that all physicians in Illinois are grateful for this special interest in poliomyelitis as it has enabled the Department of Public Health to make convalescent immune serum available. I am personally indebted to him for consenting to come here today to discuss this paper.

The clinical features of the early part of poliomyelitis were summarized before this Society in 1921 as follows: "The first group of symptoms are headache, malaise, nausea, vomiting, constipation or diarrhea, fever, pain, spine sign, hyperesthesia, muscle weakness." Draper this year makes a division of these symptoms and signs in a recent article.[7] Some of these symptoms and signs appear in many acute infections in children and young people. How then are we to analyze the case and say which is early poliomyelitis and which is not?

The answer to such a question is difficult to give. One reason is that there are many cases that are of a mild type, which do not show all the signs of the acute disease, may not show weakness and escape the complication of paralysis. As I look back over records and recall cases I realize that I have called such conditions acute gastro-enteritis or food poisoning, perhaps some "summer flu" though I must state that I have never been satisfied with this latter term as a diagnosis. The patient or the family is more apt to employ this phraseology and for want of

*Paper read before the Central District Medical Society, Pana, Ill., Oct. 27, 1931.

recognizing what may have been a mild poliomyelitis I have let it go.

There are, however, some leads that are important in the differential diagnosis and that have proved helpful. First and foremost is the impression that we see of an individual who is sick, sick out of proportion to what one would anticipate from the history. The prostration seems more than one would have reason to expect. Second the general physical examination of the parts where one usually notes findings is essentially negative. There is not enough in the throat to account for the malaise, the headache, the gastro-intestinal disturbance. Nor are the findings in the chest and abdomen sufficient. The general lymph node enlargement which Burrows has recently stressed[8] has been found though not constantly in cases running back to 1916 when I first became interested in this disease. Third the examination of the nervous system does show evidences of irritability.

One does not have to be a neurologist to make the type of examination that leads to a diagnosis of early poliomyelitis. The presence of a coarse tremor when the patient moves or is moved has frequently been mentioned by the individual or by member of the family. Draper and Aycock have called this the "ataxic tremor." Draper puts it in the stage of the disease where the virus is passing from the general systemic infection period to the central nervous system period. Soreness or distress in the back on anterior bending of the body is usually characteristically present. Draper has called this the "spine sign" and considers it due to irritation particularly around the ganglia. Information about the pain in the back has been volunteered by patients usually in describing sensations when they try to sit up in bed. Three cases are recalled where the discomfort noticed when the patient sat up in bed for lung examination led, in connection with other findings, to the diagnosis of poliomyelitis. Resistance to movement is rather more than the usual withdrawal that many sick children show. Kernig's sign may or may not be present at this time. One is conscious more of moderate rigidity than a true Kernig if such a distinction can be made. We usually think of absent deep reflexes when we think of this disease. That is correct when the complication of paralysis has occurred. However, in the stage under discussion here the complication has not occurred. Irritation rather than loss of function is in force. The deep reflexes are therefore often overactive. The superficial reflexes observed on stroking the abdomen are, on the other hand, usually gone.

The presence or absence of further signs of central nervous system irritation or invasion depends largely upon the time elapsed between the onset of illness and the examination. When an epidemic is on people generally are more conscious of the dangers. Illness in the family is more likely to be considered as potentially serious. The physician sees the case earlier. Sporadic cases are more apt to be seen in later stages with weakness or paralysis already developed. A few hours may make quite a change in the picture. Consequently if poliomyelitis is considered (and it should be considered more often than not) in the differential diagnosis and if a definite suspicion or diagnosis cannot be established the patient should be seen again promptly; to wait until the next day may be too late.

Spinal puncture with examination of the fluid is a needful diagnostic procedure in the early course of the disease. There is a phase very early, probably earlier than most cases are seen, when the fluid is negative. When signs of irritation of the central nervous system are present the fluid has become positive. Pressure is increased. Cell count is up. Globulin may or may not be present early. Generally the cell count is up then gradually decreases while the amount of globulin is at first low, if any, then gradually increases.

Spinal puncture is also a therapeutic aid. When the outline of pathology and treatment was presented here ten years ago puncture with spinal drainage was the method of treatment discussed. During the past eight years it has been subordinated to the use of convalescent serum intraspinously as well as by other routes.

The course of illness depends essentially upon the resistance of the individual and the amount and virulence of the virus received. A summary of the outline of the pathology previously referred to still holds good in the statement that perivascular infiltration is the important change whether it be in lymphoid tissue or in central nervous system. Because of the striking effects of the disease on the central nervous system and the fact that death is due to respiratory paraly-

sis attention has in the main been focussed on the lesions there.

The infiltration is considered to be the reaction of the body to the presence of virus in the perivascular lymph spaces. A prominent feature in the central nervous system is that this reaction of edema and infiltration interferes with the normal nutrition of the nerve cells. A direct toxic effect of the virus on nerve cells is likewise important. The anatomical arrangement of the vessels in the spinal cord throws the major part of the accumulation in the neighborhood of the anterior horn cells. Consequently if some change does not occur to lessen this accumulation these cells, being deprived of their nutrition, begin to fail in their functions. The result of this is first irritation, then weakness, then paralysis. The end result depends upon the degree of damage done to the groups in the anterior horns. If slight, full function may be restored; if total, paralysis is permanent, for the nerve cells of the central nervous system do not regenerate.

Burrows[8] has recently stressed the changes in the lymphatic system. He contends that the portal of entry is in the gastro-intestinal tract and spreads to the lymphatics in other parts, especially the lymphatics of the central nervous system. He proposes the term acute lymphatic hyperplasia on the basis of the primary lymphoid tissue and space involvement.

The effort in treatment is of course to prevent this extension of the infection through the body. Particularly is this important to prevent extension to the nervous system or within the nervous system.

Studies in experimental poliomyelitis showed that the serum of monkeys recovered from the disease had the power to neutralize the virus. Thus monkeys inoculated with active virus could be prevented from developing the illness or could be treated with good expectations if serum were given sufficiently early. Serum from humans recovered from the disease was found to have similar powers. Convalescent serum has been used for twenty years and is now generally considered the most valuable agency in treatment. Normal adult serum and whole blood have also been used.

Too much, however, must not be expected of convalescent serum. If the disease has gone so far that the complication of paralysis is well developed it is useless to expect that serum will cure an already existing condition of this type. It may arrest the spread of the infection when used in this manner. All writers have emphasized, however, that the time to give serum is in the early stage, the preparalytic phase. Draper advises it being used in what he calls the preataxic tremor phase though he does not advise the intraspinous use then. Serum may be given intramuscularly, intravenously and intraspinously. We prefer intraspinous administration in the belief that it is advisable to put the highest concentration of immune substance where it is most needed and where the effect will be most promptly secured. It would be better to give serum intramuscularly as soon as available than to wait until facilities and equipment for more technical procedures are at hand.

The State Department of Public Health has this year prepared serum for distribution. Springfield is the main depot though there are centers of supply in various cities over the State. Rapid automobile transportation makes these centers accessible to all downstate within a few hours while the Chicago territory is cared for by the Serum Institute at the Michael Reese Hospital as well as other sources. Serum is prepared by taking blood from a recovered case, separating the serum, testing it for sterility and in public health work by Kahn tests, then storage. Before it was available from the State Department of Public Health we prepared it as needed using individual donors from time to time.

Three cases which show the results of the use of convalescent serum at different stages may be of interest:

A girl, aged seventeen years, had had a digestive upset with onset of nausea and vomiting. Abdominal pain, pain in the right arm and shoulder, headache, temperature of one hundred and one were the symptoms related to me one evening. When seen about nine-thirty accelerated respiration, slight stiffness in the neck, slight resistance on the Kernig test on the right, absent abdominal reflexes, tremor of the right arm on movement were found in addition to the subjective symptoms mentioned in the history. There were no other physical or neurological findings. The patient stated that the right arm felt cooler to her than the left though no palpable temperature difference could be elicited. Telephone communication with Dr. Shaughnessy gave the information how serum could be secured at night. This word was passed on to a relative of the family in Springfield. Shortly before midnight the serum was administered, eighteen c.c. being given intraspinously.

The fluid was under increased pressure, cell count twenty-seven, no globulin. Temperature remained elevated for twenty-four hours, has been normal since then and further progress uneventful. It might be argued that this case might never have gone on to paralysis. Granting this, there remain these features of the case that made me feel that prompt intraspinous serum therapy was indicated; respiration was accelerated and the arm area was involved. My father has pointed out to me often the seriousness of deltoid involvement. The portion of the cord supplying the deltoid is the same that supplies the diaphragm. Hence the unfavorable prognosis if deltoid paralysis sets in, even if unilateral.

The second case exemplifies this: A boy, aged seven years, developed gastro-intestinal disturbance five days before his doctor was called. A return of fever and development of weakness in the right arm and shoulder alarmed the parents. Eight c.c. of serum were left from a case his doctor and I had seen together the week before. This was given intramuscularly by him as well as forty c.c. additional as soon as it could be secured from Springfield. It was hoped this would take care of the situation. When I saw the patient two days after the development of neurological signs he had complete deltoid paralysis, Biot breathing and was cyanotic. Introspinous serum was not given as the outcome was considered inevitable. Death occurred eight hours later.

A third case shows the ability of serum to check the extent of the disease though also shows it to be of no avail in clearing up damage already done. A college girl, aged twenty years, had some digestive disturbance over the week-end, but went to a dance that Saturday night and for a long walk in the woods on Sunday. Monday she complained of her legs aching and had some fever—these were considered the result of the digestive upset and the additional exercise in the previous two days. When seen a temperature of one hundred and one, weakness in both lower legs, moderate resistance of the neck, a slight Kernig and difficulty in voiding urine were the positive findings. These signs, together with the fact that I had called an illness that her brother had recently had in the West an attack of the cerebral type of poliomyelitis, led to the diagnosis of her case. This was eight years ago. Convalescent serum, using the brother as donor, was prepared and administered intraspinously and intramuscularly. By the time the serum was ready paralysis of the lower extremities was complete and the extension up the trunk could be watched almost from hour to hour. I speak of this because of a statement made by the patient, a very stable intelligent girl, that within an hour and a half of the intraspinous therapy she felt a change. She did not notice the ascending weakness that she had previously been able to delineate for physician, relatives and for the staff of the sanatorium as we saw things progress. This was one of my early personal experiences with the use of convalescent serum. I have watched that girl resume after a year and a half her college work, carried to classes by her brothers and friends, secure her A. B., go on to take an A. M. She is now on the staff at Warm Springs and is an example of what character, courage and determination will accomplish in overcoming a handicap.

Injections into the subarachnoid space are not as formidable as they appear. Sharp needles and proper holding of the patient are the important elements. We now keep at the Sanatorium a bag containing needles, gravity intraspinous outfit, syringes, manometer and all necessary accessories, sterile and ready solely for serum therapy. Simplified technique makes the procedure relatively easy of accomplishment. The equipment is, of course, the same for treatment of meningitis or tetanus or any other condition where intraspinous injections are desired; only the necessary sera need to be added.

When cases appear in a community the alarm is immediate. The mild cases that I have spoken of previously are undoubtedly the means of the spread of the disease. They make it possible for some severe ones to appear. Some biological test for susceptibility or for determining whether or not an individual has had poliomyelitis has been sought by numerous investigators for some time. A recent announcement by Jungeblut[9] of a positive response in individuals who have definitely had the disease when tested with an intracutaneous injection of killed virus appears significant. The reaction is apparently an allergic or sensitization affair. It deserves further study for clinical application.

If I should have the good fortune and the opportunity to take part in the proceedings of this Society ten years hence the chances are that the clinical and biological studies on poliomyelitis would be the main theme of a paper then. The progress during the past ten years has been in early recognition and the value of serum treatment. The progress in the next decade will quite surely be in the way of prevention, for such is the natural history of the extension of knowledge of the acute infections.

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TUBAL INSUFFLATION IN STERILITY BY THE USE OF AIR PRESSOMETER*

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"And when Rachel saw that she bare Jacob no children, Rachel envied her sister, and she said unto Jacob, "give me children or else I die."

This is the voice of wailing women from the biblical time down to our own. A cry of disappointment, through the inability to realize one's hopes. The desire for offspring is one of the most powerful instincts of humans and failure to realize this desire has caused much unhappiness and often results in divorces.

To realize the hope of having an offspring the primitive woman resorted to the witch doctor, who with her mystical power could cure her barrenness. Charms and other means of superstition kept kindling her hopes to the years of old age. The woman of the middle ages found solace and hope in her religious devotions.

The modern woman went to her doctor only to be told that her womb was tipped or closed, often suggesting an operation be performed, giving very little thought to the cause of sterility, but much to the bill rendered. Truly the promptness of many men to dilate and suspend without a serious thought to this problem is a sad chapter in surgical gynecology.

Our knowledge of the treatment of sterility has been very incomplete indeed. This gap, however, has been bridged over somewhat by the advancement into two principal lines—first, in the field of endocrinology and second, by the application of the insufflation of the Fallopian tubes, by which the patency or non-patency of the tubes can easily be determined. The credit for the application of this method is given to Dr. I. C. Rubin.

In the determination of tubal patency the method in order to be universally applied had to be free of danger, and patency or non-patency can now be diagnosed by the peruterine air or carbon-dioxide insufflation. The method which I am going to describe presently consists of the insufflation of the tubes with a slow current of air or gas through a uterine cannula under manometric control noting whether the gas enters the cavity or not.

Of all the causes of closed tubes, gonorrhea and puerpural sepsis take the greatest toll. On the other hand many women owe their sterility to an innocent peritonitis produced by an attack of appendicitis. In such cases pelvic abscess is formed which affects the fimbria and seals them off in the healing process. Also fertile women who subject themselves to an abortion, the first time they become pregnant, have sterilized themselves, sometimes forever through the infection that followed. In these cases again the tubes become sealed off by the inflammation that follows the infection. It is in these cases where the utero-tubal insufflation is of pathognomonic value.

I believe, however, that insufflation tests should precede any other attempt to ascertain the cause of sterility, except that of determining the fertility of the male. In all cases insufflated it was found by many workers that upward to 60% had closed tubes. Out of these an average of 40% could be opened by repeated insufflation. One out of six of the 40% became pregnant before the end of the second year.

The method of procedure in arriving at a diagnosis after the fertility of the husband is assured, is to take a history especially pertaining to menstrual history, gonorrheal infection, puerpural complication or any history of local peritonitis. After a physical examination including a bimanual examination, the examination of cervix and cervical secretions, the insufflation is done.

When should the test be done? The best time for the test is about ten days after the menstrual period. The tenth to the eighteenth day is considered the most fertile period; impregnation is most likely to occur at that time. The test, if the tube was found to be not patent should be repeated at monthly intervals at the same time with reference to menstrual cycle. Three insufflations with failure to obtain a subphrenic pneumo-peritoneum may be taken to prove tubal closure.

Apparatus Used. The apparatus used in some of the clinics is cumbersome and somewhat ex-

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pensive. Irvin Stein, of Michael Reese Hospital, put out a self-retained speculum, which alone retails for $19.00. The apparatus as used in Vienna is a rather inexpensive glass container with a wooden shell with three outlets. The container is filled with water to filter the gas through and the outlets are connected respectively to the gas tank, the manometer and metal uterine cannula.

The apparatus I am using is very simple and compact and has been designed by Dr. Julius Zarcho, of New York. His is designed to use air instead of gas. This apparatus is put out by Becton, Dickson & Company, of New Jersey, and as you will see consists of a pressure bulb of a manometer to measure the pressure and the long cannula with a rubber stopper to fit into the cervix. There is also a container that can be used for lipiodal injections if so desired.

The test is done in the following manner: The patient is put in the lithotomy position. No anesthetic is necessary except of very nervous patients when nitrous oxide or ethylene may be used. I prefer to have the patient stay in the hospital for twelve hours but the work can also be done in the office.

The cervix is now exposed by the introduction of Sims' speculum and the anterior lip of the cervix is grasped with a double tenaculum, after the cervix has been cleared from any mucus and sterilized with iodine or mercurochrome. A probe is now inserted and the direction of the cervical canal is determined. The intra-uterine cannula can be shaped to go in any direction of the cervical canal. The rubber fits tightly against the cervical canal, so as not to allow any regurgitation. A slight traction on the tenaculum makes the rubber fit snugly in the external os. After the cannula is fitted the assistant pumps air slowly until the mercury column indicated in the manometer is raised to 200 millimeters of mercury.

In many clinics CO_2 is used instead of air. The advantage is that it is absorbed quickly, whereas it takes from 24 to 48 hours for air to be absorbed. However, inasmuch as so small a quantity as approximately 30 cc. of air is sufficient with this pressometer, very slight distress is occasioned and the patient may go about her business the next day. A full compression of the rubber bulb, will send the mercury column practically to the top. This is approximately twice as much pressure as is required for the test.

The possibility of peritoneal infection from non-sterile air, i.e., from foreign particles floating in the air, is considered very remote. This can be eliminated however, by filling the glass reservoir, which is used for lipiodol injections with medicated gauze, to filter out those particles.

The symptoms of pertubation are as follows:

1. *The manometer play.* If the mercury in the manometer recedes rapidly with a constant pressure the tube is patent. If the tube is patent the manometer plays between 20 and 70 millimeter of mercury, or it may go up to 100 or even 200 and drop. If the mercury stays up after repeated attempts that is a good sign that there is an obstruction.

In presence of permeable stricture the gas rises to high pressure and drops gradually, steadily with no fluctuations. In case of spasma the pressure rises high, usually between 100 and 200 millimeters of mercury, but when spasma is relieved it drops as in normal cases. A spastic condition can be overcome by preliminary injections of atropin.

Auscultation. 2, On auscultation over the abdomen, the noise of passage of the air through the tubes is distinctly heard and cannot easily be confused with peristalsis or any other noise and the experienced examiner is not easily misled. The passage of air is almost always felt by the patient herself.

3. Of the subjective symptoms, shoulder pain is a most characteristic symptom of the entrance of air under the diaphragm and it can be visualized, fluoroscopically. This symptom is always pathognomonic. The pain sometimes is not felt until the patient takes the upright position, but it is easily relieved by the supine or Trendelenberg position. Sometimes in cases of slow inrush of air the pain may not appear until a day or days after. Pain in the side of the tubal obstruction may be felt momentarily, but it disappears as soon as the cannula is withdrawn from the cervix.

4. Another symptom of less significance is the bubbling noise that one may hear on the mamillary line, when the patient rises from the lithotomy position. The air which up to this time was around the umbilical region rises in small bubbles from between the intestines caus-

ing a bubbling, metallic sound, which may be heard for about 15 minutes or sometimes hours.

5. But with all these signs mistakes are possible and many workers resort to pertublation under x-ray examination. The demonstration of a cycle-shaped air space between the liver and the diaphragm is most certain and the simplest evidence of patency of the tubes.

Localization. The matter of localization of the obstruction is sometimes of importance. It has been found by repeated observation and controlled by laparotomies, as well as lipiodol injections, that when tubes are closed at the uterine end, the pressure rises to 200 and as a rule the patient feels discomfort over the symphysis in the midline referable to the uterus. When the tubes are closed on the isthmi, the same median supra-symphesial discomfort is noted by the patient with slight pain just lateral to the uterus. When the tubes are closed at the fimbria a more intense pain is noted by the patient and radiates well out to the sides. In cases where plastic operation is considered advisable lipiodol injection is indicated. Some men are doing lipiodol injections routinely in place of the Rubin's test. Personally I believe that where no surgery is indicated Rubin's test is a much easier and safer procedure. Lipiodol is more difficult to inject, if it stays within the tubes for a long time, paralyzes the masculature for some time and causes a greater discomfort. Also the danger of infection is greater. Because of its density it carries germs upward much more easily than air,

Contraindications: There are some contraindications to the insufflation test: Gonorrhea, or any other acute or subacute inflammatory condition, is definite contraindication. Profuse purulent uterine discharge, people with uterine tumors, hemosalpinx, hydrosalpinx, or pyosalpinx. People with cardiac lesions or any debilitating diseases. In infective cases the possibility of an ascending infection is a proven possibility.

Danger. There is practically no serious danger following the test. Workers have performed thousands of tests without an accident. Mandelstam of Germany, in 1200 cases, had only a case of skin emphysema. Rubin in 500 cases reports no accident. Rupture of a tube is possible if pressure is very high, and respiratory syncope seen when large amount of gas is injected disappears when the patient is put in a knee-chest position. Gas emboli is a very rare accident.

Therapeutic Influence of Insufflation. The peruterive insufflation, according to Rubin, exerts a therapeutic influence in several ways: 1. By establishing patency of the genital tract from the external os to the abdominal opening of the tubes. 2. It enables the cervix to expel a mucous plug from its deeper portion after the insufflation. 3. By overcoming utero-tubal spasma insufflation prepares the genitals for favorable reception of the spermatozoa. 4. It separates mild agglutinations of the folds of tubal mucose. Straightens out tortuous tubes, dislodges mucus from a narrow to wider part of the tube, separates adhesions of the fimbriated end in many cases requiring 150 to 200 millimeters of mecury.

To Conclude. 1. Air or gas for tubal insufflations for diagnostic purposes can be safely used.

2. Transuterine inflation will reveal the patency or non-patency of the Fallopian tubes.

3. Manometer reading over 150 millimeters of mercury usually signifies obstruction of the inflow of gas through the tubes. Most commonly due to salpingitis.

4. More than 60 per cent of sterile patients have closed tubes.

5. Fallopian tubes with constricted or obstructed lumina may be sometimes dilated enough by the gas to permit the passage of an ovum. Pressure over 200 millimeters is dangerous and should be used with caution.

6. At least three attempts should be made at monthly intervals before one can declare a tube occluded definitely.

7. Peruterine insufflation is a safer, cheaper and better method to lipiodol injections. It can be done at the office.

55 East Washington Street.

SOME CLINICAL AND ROENTGENOLOGICAL ASPECTS OF PULMONARY TUBERCULOSIS*

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The clinical picture of pulmonary tuberculosis presents so many variations that it is rather

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difficult to classify cases in a manner entirely satisfactory. Physical signs and symptoms may differ in patients similarly classified. The character of the findings in a given case may change with the progress of the disease. The lungs may simultaneously present every type of tuberculosis lesion. Non-tuberculous lesions may complicate the tuberculosis involvement. The greater number of cases, however, present a predominance of clinical manifestations of sufficient uniformity to permit of their being classified in certain groups.

Classifications of Pulmonary Tuberculosis. On a pathological basis pulmonary tuberculosis is usually classified as follows:

Acute Miliary Tuberculosis.
Acute Pneumonic or Caseous
(a) Lobar
(b) Lobular
Chronic Ulcerative or Fibro-Caseous
Fibroid

Based on the extent of the physical or x-ray findings, the symptoms, the complications and the progress of the disease, the National Tuberculosis Association has adopted the following classification:[1]

LESION

Minimal (Incipient): Slight lesions limited to a small part of one or both lungs. No serious tuberculous complications.

Moderately advanced: A lesion of one or both lungs, more widely distributed than under *Minimal,* the extent of which may vary, according to the severity of the disease, from the equivalent of one-third the volume of one lung to the equivalent of the volume of an entire lung with little or no evidence of cavity formation.

No serious tuberculous complication.

Far advanced: A lesion more extensive than under moderately advanced. Or definite evidence of marked cavity formations. Or serious tuberculous complications.

This classification provides for the following groups and sub-groups:

Minimal A	Moderately Advanced A	Far Advanced A
Minimal B	Moderately Advanced B	Far Advanced B
Minimal C	Moderately Advanced C	Far Advanced C

SYMPTOMS

A (Slight or none): Slight or no constitutional symptoms including particularly gastric or intestinal disturbance or rapid loss of weight. Slight or no elevation of temperataure or accelleration of pulse at any time during the twenty-four hours. Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent.

B (Moderate): No marked impairment of function, either local or constitutional.

C (Severe): Marked impairment of function, local or constitutional.

Classification of Subsequent Observation. Apparently Cured: All constitutional symptoms and expectoration with bacilli absent for a period of two years under ordinary conditions of life.

Arrested: All constitutional symptoms and expectoration with bacilli absent for a period of six months; the physical signs to be those of a healed lesion; roentgen findings to be compatible with the physical signs.

Apparently Arrested: All constitutional symptoms and expectoration with bacilli absent for a period of three months; the physical signs to be those of a healed lesion; roentgen findings to be compatible with the physical signs.

Quiescent: Absence of all constitutional symptoms; expectoration and bacilli may or may not be present; physical signs and roentgen findings to be those of a stationary or retrogressive lesion; the foregoing conditions to have existed for at least two months.

Improved: Constitutional symptoms lessened or entirely absent; cough and expectoration with bacilli usually present; physical signs and roentgen findings to be those of a stationary or retrogressive lesion.

Unimproved: Essential symptoms unabated or increased; physical signs and roentgen findings to be those of an active or progressive lesion.

Died:

This Classification of the National Tuberculosis Association has been universally adopted in tuberculosis clinics and sanitoria, and from a standpoint of utility appears to have proven quite satisfactory. In the average patient it conveys to the clinician a fairly good idea of the type of case under consideration; moreover, it definitely aids in simplifying the discussion and consideration of pulmonary tuberculosis for the many lay persons who are so intimately connected with the communal activities and propaganda relating to this disease.

The clinical interpretation of the lesions in the lung, the relative importance of complications and the evaluation of the degree of impairment of function, local or constitutional, is often a matter of individual viewpoint and as a result of this, we not infrequently encounter differences in opinion, with regard to what constitutes the proper classification of patients.

Acute Miliary Tuberculosis. The diagnosis of pulmonary tuberculosis of the acute miliary type depends to a great extent on x-ray examination. The clinical findings are as a rule, somewhat vague and indefinite, whereas the roentgenological appearance is pathognomonic. A single flat

1. Diagnostic Standards of the National Tuberculosis Association, Sixth Edition, April, 1926.

plate of the chest or better stereoscopic plates are essential in suspected cases. Fluoroscopic examination alone is insufficient, since the even distribution of the tubercules frequently present a homogeneous appearance that may be mistaken for haziness only. I recollect one case in particular, where a patient with a prolonged remittent fever was fluoroscoped and reported as having negative chest findings. Later a diagnosis of tuberculosis of the kidney was made and a nephrectomy was performed. The patient failed to make favorable progress and stereoscopic plates of the chest revealed a miliary tuberculosis of the lungs. Tuberculosis meningitis in adults is usually a local manifestation of a generalized miliary tuberculosis. Occasionally we see x-ray plates that lead us to believe that cases of miliary tuberculosis may recover.

Acute Pneumonic Phthisis. Acute pneumonic phthisis of the lobar type is occasionally encountered in adults. The case is as a rule considered one of frank lobar pneumonia until a crisis fails to ensue or a positive sputum is obtained. Resolution in such cases is delayed indefinitely. The high fever which ushers in the acute involvement may subside to a moderate elevation of temperature which may persist for a prolonged and indefinite period. Some of these cases become chronic. Recovery may occur. Tuberculosis should be suspected in every case of unresolved pneumonia. The greater number of cases ordinarily regarded as acute pneumonic phthisis are probably acute exacerbations of a chronic pulmonary involvement.

Tuberculosis pneumonias in children may be of the lobar as well as the lobular type. The relationship of tuberculosis broncho-pneumonia to measles and to a lesser extent to whooping cough has been frequently commented upon. Children convalescing from the contagious diseases mentioned should in as far as possible be removed from the danger of contact to tuberculosis. A diagnosis of tuberculous pneumonia in a child cannot definitely be made in the absence of a positive sputum.

The x-ray, while of value in outlining the extent of the pneumonic involvement, does not help to establish its tuberculous basis unless corroborative findings in the way of a chronic tuberculous lesion are present or a positive sputum is obtained.

Chronic Ulcerative Tuberculosis. Chronic ulcerative or fibrocaseous pulmonary tuberculosis as a classification is more or less elastic. The pulmonary involvement may be of an acute, semi-acute, chronic or very chronic nature, depending upon whether the caseous or the fibroid element predominates in the diseased process. The size of the lesion and the presence of complications may influence the situation.

To detect the lesion at an early date is, of course, most important. Of almost equal value is the recognition of the character of the pathological process in the lung. Are we dealing with an exudative type of lesion or is the involvement of a discrete type? Is there a tendency towards localization of an exudative process or is a discrete type of involvement spreading? The physical signs indicative of sclerosis softening and cavitation should be familiar to the examiner for the method of treatment and the consequent prognosis depends upon the proper evaluation of the character and progress of the lesion in the lung.

At this point it may be permissible to add that the value of the clinical findings depend upon the precision with which the ordinary technique of physical examination is carried out. Inspection, ordinarily considered elementary, is very important. It is interesting to note how little or how much a clinician may glean from simple inspection. The usefulness of palpation has been pointed out in a noteworthy manner by Pottenger and others. The fine technique of percussion is mastered properly by relatively few clinicians. Most men are content with the ability to percuss out definite and more or less large areas of impairment of resonance. Auscultation is depended upon the greatest extent in the evaluation of the findings, and in this connection it must be remembered that auscultation is never complete unless the patient is requested to cough after expiration. It is at times a good plan to check back on inspection, palpation and percussion in order to properly evaluate the auscultatory findings.

Clinically cases of chronic ulcerative tuberculosis group themselves in four types:

1. Cases where the physical findings are vague and indefinite. Such cases may or may not present very definite x-ray findings. Incipient

cases with a hemorrhagic onset quite often fail to show definite physical findings.

2. Cases with evidence of a tendency toward induration and fibrosis. In such cases the breath sounds over the area involved form the prominent part of the picture if the bronchi are patent. Inspiration and expiration are harsh. Expiration is usually prolonged. The breath sounds may vary from the broncho-vesicular type to the bronchial type, depending upon the amount of induration. Rales may be present, but they are secondary in the picture. If the fibroid overgrowth involves the smaller bronchi as well as the parenchyma the breath sounds may be diminished or absent.

3. Cases with evidences of a tendency toward liquefaction and necrosis, the so-called exudative lesion. On auscultation, showers of moist rales fine, medium or large, depending upon the degree of softening, form the most prominent part of the picture. The breath sounds may be diminished. Amphoric breathing indicative of cavity formation may be present. Cavities, however, may or may not give any physical signs depending on whether or not the communication with the connecting bronchus is interfered with.

4. Cases where complications predominate. The most frequent compilation is pleurisy with effusion. Spontaneous pneumothorax, hydrothorax, and pyothorax are occasionally met with. The findings in the latter conditions vary, depending upon whether the pneumothorax communicates with a bronchus. Emphysema with chronic bronchitis and asthma may be present.

The clinician should check on his findings with x-ray plates. This is necessary in order to better determine the extent of the disease and the type of lesion. In incipient cases with doubtful physical findings the clinician should not depend on the roentgenologist to make the diagnosis. It is quite frequently impossible to definitely diagnose a case of minimal tuberculosis from the findings on the x-ray plate. X-ray plates should be taken at definite intervals during the course of the disease so as to enable one to more accurately gauge the progress of the pulmonary lesion as well as the effects of the treatment outlined. Lipiodol injection should be made where the definite localization of a diseased process is desired.

Fibroid Pulmonary Tuberculosis. Fibroid pulmonary tuberculosis from a clinical standpoint appears to permit of a great latitude of interpretation. Every clinician familiar with tuberculosis work has noted the great frequency with which this diagnosis is made on the basis of a slightly impaired resonance in an apex with some apparent deviation from the normal in the auscultatory findings. Definite fibrosis involving one or both apices usually has a tuberculous basis. Minor degrees of fibrosis are, however, so frequently encountered that from a clinical standpoint one hesitates to designate many such cases as phthisis in the absence of clinical manifestations.

Symptoms. It is not my intention to discuss the symptomatology of pulmonary tuberculosis at great length. While I do not overlook the importance of symptoms especially in cases with vague and indefinite physical findings, yet I do not depend too greatly on symptoms. The presence of definite symptoms is as a rule usually associated with definite physical findings. On the other hand, we meet with any number of cases where the physical signs indicate a far advanced involvement, and yet the symptoms that one would expect in such instances are entirely lacking. The symptoms depend on the toxins liberated by the tuberculous lesions. Exudative lesions produce toxic manifestations. Discrete lesions are less apt to produce symptoms. Fibroid lesions may produce no symptoms unless they are extensive in nature, when they may be associated with signs of emphysema with chronic bronchitis and perhaps asthma.

Tuberculosis Simulating Non-Tuberculosis Lesions. Clinical experience has shown that any type of pulmonary lesion may be associated with the presence of tuberculosis. It is the usual observation that chronic tuberculosis lesions chiefly involve the apices and upper lobes progressing downward, or extend outward from the hilus. The frequency with which basal tuberculosis is met with in the presence of apices and upper lobes that are relatively clear should place the clinician on guard. Any and every type of lung involvement ordinarily considered non-tuberculous may mask a tuberculous process. Chronic bronchitis, bronchiectasis, abscess, or unresolved pneumonia may reveal the presence of tubercle bacilli in the sputum. Asthmatic bronchitis and bronchial asthma are not infrequently associated with pulmonary tuberculosis. In fact, it has been suggested that the tubercle bacilli

may be responsible for allergic phenomena. Repeated sputum examinations for the presence of tubercle bacilli should be made during the course of any chronic respiratory disease.

I wish to digress at this point to discuss the desirability of a more careful consideration of the presence of pulmonary tuberculosis in the management of upper respiratory infections. Chronic nose and throat conditions frequently mask a beginning and not infrequently an advanced pulmonary tuberculosis. Nasal operations and more especially tonsillectomy may constitute a real hazard to the patient with active lung involvement, the responsibility for which rests upon the physician. No operative procedure on the nose or throat for the relief of cough and expectoration should be performed without definitely ruling out phthisis as a causative factor. A diagnosis of no tuberculosis in a suggestive case should not be made without x-ray plates of the chest and sputum examinations.

It would seem unnecessary to remark that in questionable involvement of the larynx it is always advisable to examine the chest for tuberculosis and the sputum for tubercle bacilli. Bronchoscopy performed in the presence of pulmonary tuberculosis may activate and spread the disease.

TREATMENT

We are familiar with the assertion that about 90 per cent. of adults are infected with tuberculosis. We also recognize that certain environmental factors appear to influence the development of active disease. Nevertheless, the exact biochemical changes that render the activation of a latent tuberculosis possible, is still a matter of doubt. Regardless of these changes, the observation has been made that rest, fresh air, and proper diet plus the removal of environmental influences ordinarily regarded as unfavorable will help the individual in his fight against the disease.

Absolute rest is probably the most important measure in the treatment of tuberculosis. I have at times debated the advisability of placing certain patients in a plaster cast from the waist to below the knees, in order to limit physical activity. Clinicians have commented on the salutory effect upon pulmonary tuberculosis of enforced rest resulting from the application of a plaster cast for the treatment of a hip or knee complication or perhaps an injury.

Fresh air does not mean cold air and drafts. Not all patients respond favorably to the vigorous requirements of outdoor life during the winter months. Individualization of cases is necessary. Hemoptysis is not infrequently encouraged by the unusual chilling of patients who are anemic and not robust.

Dietetic studies in pulmonary tuberculosis have produced relatively little from a therapeutic standpoint. I am somewhat inclined toward superalimentation where there is no apparent contraindication for such procedure.

In conclusion may I briefly discuss some phases of artificial pneumothorax, phrenic-exeresis and thorocoplasty. Artificial pneumothorax has definitely established a place for itself in the treatment of pulmonary tuberculosis. Wherever indicated its use, if applicable, is preferable to other methods of collapse therapy. Artificial pneumothorax, once established, should be maintained as long as the pleural space permits of the injection of air under negative pressure. Observations justify the opinion that artificial pneumothorax decreases the mortality rate, ameliorates the symptoms and shortens the period of active involvement. There is also the potentiality of the reduction of the number of open cases of pulmonary tuberculosis by this method.

Phrenic-exeresis or removal of a portion of the phrenic nerve, if successful, tends to paralyze the diaphragm on the affected side with consequent limitation of lung movement. The application of this procedure on a broad scale has been too recent to permit of any but general deductions. It appears a desirable method in cases where artificial pneumothorax is inapplicable, or to supplement the latter procedure in basal tuberculosis of the lung with pleural adhesions.

While phrenic-exeresis in competent hands is a relatively simple operation which carries practically no mortality rate, the after-effects may offer problems of serious moment. It must be remembered that section of the phrenic nerve, if successful, will result in a more or less permanent reduction of from fifteen to twenty per cent. in the total breathing capacity of the lungs. A compensatory hyperactivity of the opposite lung invariably occurs. This hyperactivity may be sufficient to activate a quiescent tuberculosis. I have seen several cases of acute pulmonary in-

volvement in the "good lung" following phrenic-exeresis. Patients with chronic bronchitis and emphysema complicating tuberculosis are poor subjects for this operation.

The phrenic operation accelerates improvement in many cases both unilateral and bilateral, whose clinical course is stationary or in whom a slow improvement is taking place. Cases which are progressing unfavorably seem to derive little benefit. In some instances the unfavorable trend is accentuated. There is no definite standard for this operation. Some cases improve. In many cases the results are disappointing.

Extrapleural thoracoplasty should be considered in the treatment of cases where lung collapse is indicated and where artificial pneumothorax and phrenic-exeresis are not applicable, or fail to produce the desired degree of lung compression.

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THE PRESENT STATUS OF TRAUMATIC SURGERY*

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It is a rare opportunity and an unusual privilege that this occasion offers to discuss the subject of "Traumatic Surgery" with a group of industrial surgeons in this great industrial center. This organization is most familiar with large industries where working conditions are often extremely hazardous, with the coincident frequent injuries, and your intimate contact with all phases of this intricate and involved subject gives you a perspective, a knowledge, and an understanding of the situation that few surgeons enjoy.

The term traumatic surgery has been employed generally only recently, but it is descriptive and comprehensive in its application. The word trauma may be defined in its broadest sense as any force or action which causes a destruction of or a disturbance in the anatomic or physiolgic function of the organism.

It is unnecessary to dwell at length on the increasing number of injuries that are occurring in this age and era when all means of production, tilling the soil, and the transportation of people and materials are being accomplished by every form of mechanization.

It is understood that there should be no effort to create a new specialty in this field of traumatic endeavor, for the distorted physiology and anatomy in cases of injury are often so extensive and so involved from a pathological standpoint that if the most approved sugricel therapy is to be applied then its application must be directed by a broadly trained surgeon who has had a general training and experience.

As a matter of observation it can be stated that under existing conditions a large proportion of the fractures and other injuries are being treated by the so-called general practitioner.

To substantiate the position and justify the thought that a new specialty should not be established, attention may be invited to the situation which arose during the war when an effort was made to classify a large number of the injuries as orthopedic cases. Immediately it was recognized that men so highly specialized in the treatment of the pathology of bones and joints and in the application of some of the elective surgical procedures, did not exist in sufficient numbers to meet the exigency of the situation nor did they possess the broad surgical training which fitted them to meet the emergencies associated with brain injuries, lung injuries and abdominal viscera injuries.

The same general, practical principles and problems prevail in peace time traumatic surgery as it is encountered after automobile and industrial accidents. The present situation in traumatic surgery is comparable to the war emergency. The men who are to care for this class of cases most efficiently must be broadly instructed and trained in all departments of surgery.

There is a generally accepted knowledge that the scientific treatment of traumatic and emergency cases has not improved and advanced in a manner comparable to the achievements in elective surgery, during the past three decades. The reason for this may be found in the fact that there has not been a centralization of a large number of these cases where they could be intensively studied and the results of a given treatment followed up to a correct conclusion. It is not indiscreet nor does it conflict with the facts to state that an effort should be made to correct this unfortunate situation which can perhaps be

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illustrated best by inviting attention to the multiplicity of methods employed in treating identical fractures of the same bone. There is no uniformity of opinion on this simple subject. What can be done to rationalize the methods and procedures in their therapeutic application to traumatic cases?

In passing it may be pointed out that the Fracture Committee of the American College of Surgeons is doing some excellent work in this direction in so far as it applies to fractures.

It would appear most desirable for the men and women of organized medicine and surgery to formulate some definite plan of action if we are to have a better understanding and a more universal agreement as to the generally accepted and approved methods for the treatment of the injured. To inspire and stimulate some practical action in this direction the Board of Traumatic Surgery of the American College of Surgeons proposes the following plan:

1. That every influence be utilized to improve the teaching of traumatic surgery in medical schools, which instruction is at the present time, in most instances, deplorably weak, inadequate and ineffective.

2. That arrangements be made for a more complete educational program on traumatic surgery which may be presented at all available professional and public meetings and which knowledge may be disseminated through medical journals, the press and the lay magazines.

3. That there be established a close working contact with large industries to the end that better correlated, and more efficient medical organizations may be perfected in industry.

4. The appointment of a number of commissions the personnel of which shall represent the most advanced thought and the broadest conception of the approved and accepted methods of treatment in the several regional areas of the body most frequently involved in traumatic surgery, namely:

Injuries to the Head.
Injuries to the Spine.
Injuries to the Chest.
Injuries to the Abdomen.
Injuries to the Pelvis.
Injuries to the Hand.

The function of these commissions, as it has been conceived, is that they survey, study and analyze the whole situation and rationalize the methods that are to be advocated and employed in the treatment of the injured.

5. It is proposed that some form of organization be created whereby this assembled knowledge collected by these commissions may be presented in an educational way to the men who are in daily contact with these ever recurring cases. In a word, to render a service to the men in the field by carrying a rational practical plan for the treatment of traumatic cases to the surgeon in the field who is confronted with the emergency.

This may be done as follows:

1. Systematic talks to County Medical Societies on traumatic surgery.

2. Securing of the cooperation of railroad surgeons and utilizing an equipped car to go over their railway system and with trained men demonstrate the accepted methods as formulated and advocated by these commissions. This could be done in conjunction with County Medical Society meetings.

3. Presenting the deductions and conclusions of the commissions to the heads of all medical departments in industry and obtaining their correlation in a standardization of records that can be utilized in a follow up system.

4. Approach the Deans of Medical Schools and secure their cooperation in adopting a rationalized system for teaching at least the fundamentals of traumatic surgery as outlined by these commissions.

5. The establishment of opportunities for Post Gradute teaching.

Many of these thoughts and proposals are plagiarisms. Doctor George Swift and his committee have followed this plan as it applies to injuries of the head and Doctor Allen B. Kanavel suggested the method for carrying the service to men in the field.

Obviously and naturally, there will always be a difference of opinion relative to any rationalized plan of treatment so long as the application of surgical therapy is an art and not an exact science. This is as it should be and only encourages and stimulates discussion, research work, follow up investigation and leads to accepted conclusions.

To point again to the analogy of elective surgery it is conceded that surgery as applied to the treatment of disease of the thyroid, gall bladder, appendix, stomach and many other con-

ditions is fairly well understood, accepted and rationalized.

This same statement cannot be made as it concerns the circumstances connected with the treatment of the injured.

A recognition of the necessity for improved methods of treatment in traumatic surgery will lead to their achievement. Centralization of large numbers of traumatic cases would permit the best opportunity for study, research, follow up and improvement in the application of more efficient care and this should be attempted.

The Workmen's Compensation Laws effect most essentially the relationship of the physician and patient in many traumatic cases and just here there arise questions and problems that must be faced with fortitude, vision, understanding and judgment, unhampered by prejudice, bias or self interest. There is always a diffidence on the part of the medical profession to discuss the subject of mundane financial arrangements but in this ever changing civilization it is recognized that a new relationship between the public and the profession is rapidly evolving and the subject demands consideration. There is at present a popular psychology that the cost of medical care and hospitalization is too high and this thought is shared by some medical men. Admittedly, this is a debatable question.

The efforts of that industrious Committee at Washington in compiling and analyzing data on the Cost of Medical Care, is illustrative of an effort to elucidate this situation. The many articles appearing in the lay press and lay magazines point to the trend of public opinion regarding the physician. The establishment by lay boards of directors of medical clinics for the treatment of venereal diseases and the extensive advertisement in the public press of such institutions is an example. Incidentally, the charge made to the patient in these clinics is less than the usual fee of a physician and in one well known institution it is authentically stated that they have been able to set up a reserve fund of one million dollars. The Board of Directors of this Clinic are being approached and urged to establish a large Hospital and an out patient department for the care of traumatic and industrial cases, this activity to be advertised in the lay press. It is not necessary to point out or emphasize the far-reaching effect of such an activity and is a concrete example of what may happen.

The ever increasing number of part pay or so-called diagnostic clinics that are springing up in all large cities are worthy of comment. Some of these clinics are connected with richly endowed teaching centers and they are in direct competition with the practicing physician and this situation should be given serious consideration.

Large industrial and utility companies are establishing their own medical departments and these organizations are gradually enlarging the scope of their medical activities.

County Medical Societies in some localities have formed corporations for the care of the indigent sick and injured and it has been proposed that the scope of such a group be enlarged to provide for the care of part pay patients and traumatic cases. To what end no one can prophesy.

This is all somewhat of a digression from the subject of traumatic surgery if it is discussed in a narrow sense but the thought back of it is the allied question of contract practice which at present is eliciting so much comment and criticism, some of which is most acrimonious and disturbing. It can be prophesied with safety that contract practice in some form, in connection with traumatic surgery, will persist and be permanent. How can it be regulated, controlled, directed and influenced so that it will not inflict an unfavorable effect on the injured patient and the physician? In the past the term contract practice as it was applied in medicine conveyed the thought of an unethical procedure but since the advent of the full time teaching position and the employment of the highest type of medical men as heads of departments in large industries the work does not imply the odium that it formerly did. Evidently, any financial arrangement that protects and conserves the best interest of the patient and physician and advances the science and art of medicine and surgery, is desirable. The perplexing question is how can any form of contract practice do this. The fundamental basic principle is the welfare of the patient and there should be no conflict here if the contract is narrowly confined to the rendering of direct medical care to the patient by the physician entirely independent of hospitalization. All contracts should be drawn so as to ex-

clude the possibility of the physician or surgeon participating in a self-interested way in the patient's hospitalization.

Every precaution is necessary to limit the financial remuneration of the physician or the surgeon to his compensation for the direct service he gives to the patient. It is apparent that if this could be done it would remove his self-interest in any other service that may be rendered to the patient aside from his individual service. Contract practice can be made to conform to the most ethical standards if this method can be achieved. Organized medicine must think in terms of collective responsibility and not in terms of individual self-interest, in any attempt to influence or control this involved situation.

The average physician is the most pronounced of independent thinkers. By training, experience and habit, he meets exigencies and emergencies as an individual and assumes the responsibility for his action unassisted by advice or counsel. His problem is rarely controversial and he solves it alone. Hence, the difficulty of group thought and action among physicians. Undeniably, the rapidly increasing number of traumatic cases has rendered the subject of the cost of medical care and hospitalization more acute and the finding of a way out is most imperative.

The task is difficult but not insurmountable. Acrimonious discussion or personal or general criticism will not tend toward the solution of the problem and will act only in alienating further the confidence of the public in the medical profession. No field in surgery is more wrapped in clouds of medical intricacies than traumatic surgery nor is there a field in surgery that comes in daily contact with more lives and problems. It affects the individual, the family, the home, the employer and the employe, and even the state.

You are all familiar with the plans that have been formulated and suggested from time to time by individuals for the correction of some of these difficulties but it is most significant that no concerted or collective effort has ever been made.

It seems inevitable that there will occur some change in the financial relationship between the doctor and the public and unless organized medicine faces the situation with courage and vision and discusses it frankly and freely it is feared and predicted that they will have no voice in the control or regulation of these changes. Some statesmen and leaders must arise from the ranks of organized medicine or our freedom is lost and we are doomed to dictation and control that will destroy every vestige of individual thought and action.

ROENTGENOLOGICAL ASPECTS OF CARCINOMA OF THE STOMACH

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In this day of refinements of roentgenologic diagnosis, it seems fitting that on occasion there should be a review of our criteria of diagnosis of some of the commoner lesions, generally considered to have been conquered and set aside in favor of less well recognized fields, and to inquire carefully whether in our quest for new adventures we may not be overlooking the application of some of the newer technic to the lesions which received our major attention in the beginnings of radiology. I therefore wish to direct our attention to carcinoma of the stomach with this object in mind.

The radiological detection of gastric carcinoma depended at first upon the recognition of more or less massive filling defects representing tumors invading the gastric lumen and corresponding fairly accurately with the size and shape of the neoplasm. The diagnostic advance also included other forms of malignant growth which infiltrated the gastric wall without lumenal invasion, detectable because of interference with mobility and peristalsis. It was admitted that very early lesions which had not yet invaded the submucosal and muscular tissues would very likely escape detection, and yet statistical evidence from the larger clinics showed an accuracy of above 90 per cent. (95 per cent. Carman). It was well recognized that such a high percentage of detection of gastric carcinoma did not and still does not obtain in the majority of clinics, though the error is in large part due to misinterpretation of findings as to differentiation between carcinoma, ulcer, perigastritis, and other lesions, rather than failure to recognize evidence of pathology. There are certain forms of gastric carcinoma, for instance, carcinoma mucosum, which may produce extensive involvement of the

gastric lining with changes recognizable with the x-ray study only with great difficulty.

It may be profitable to review briefly the method of study which should be followed in a modern x-ray examination of the stomach with reference to a possible carcinoma.

First, always, comes the screen study, unless one wishes to employ the double meal technic and see the patient fluoroscopically at the time of the second meal, four to six hours after the administration of the first. Fluoroscopically, with the patient erect, one should note:

(a) Form changes (distortions, contractions, filling defects).)

(b) Interference with peristalsis, perhaps better described as suspension of peristalsis in an infiltrated zone. This may be brought out better in some cases by pressing the screen against the abdomen or by pressure with the gloved hand or a palpator under the screen. Antiperistalsis is particularly significant, as it indicates almost with certainty an organic pyloric zone lesion.

(c) In an early case of a flat malignant growth spreading out pancake fashion along the gastric wall without lumenal invasion sufficient to form a filling defect, detection may be possible by finger or palpator compression against the abdominal wall, thus approximating the anterior and posterior gastric walls and bringing out a small defect which would otherwise be hidden by the mass of the opaque stomach content. Here is an instance where it is important to fluoroscope the stomach after the ingestion of only a swallow or two of barium, or near the end of gastric emptying, so that palpation under the screen guidance may bring out mucosal details. Compression with a balloon, especially during the making of film records, is also very helpful. During palpation one must include upward pressure or effleurage to sweep the small amount of opaque material into the fundus and the region of the cardia. The examiner must take pains to turn the patient both to right and to left to see the stomach at all possible angles. Especially in cases of low-lying stomach, one must use this maneuver of sweeping the opaque meal from the dependent portions of the stomach toward the pylorus and toward the fundus. Let us repeat, it is more important to use these palpatory devices with the stomach only partially filled than with the fully distended organ. The guided palpation also aids in the identification and differentiation of extraventricular tumors.

(d) With the patient erect, one sees easily the fluid levels of the opaque meal, with the air of the air pocket above it. This level should be studied to see if there is a quantity of supernatant secretion forming an intermediate zone between the air and the opaque material. If present to a marked degree, hyperacidity is suggested which speaks against carcinoma and in favor of ulcer; whereas the lack of such a layer suggests lack of hypersecretion.

The fluoroscopy may be continued in the horizontal position, prone, supine, or oblique.

Every fluoroscopic study of the stomach should be followed by a film examination—not one film, but a series, some of which should be made with the x-ray diaphragmmed down to the field of any suspected area. Although at times the first film shows unmistakable evidence of a carcinomatous lesion, it is not safe to base a diagnosis of gastric cancer on a single roentgenogram. As in fluoroscopy, the films should be exposed with the patient turned in the optimum position for bringing out the lesion or the evidence which will exclude one. No routine is safe, for what may be an appropriate position for a thin patient, may not be suitable for an obese individual. In fundal lesions the Trendelenburg position may be best. When making roentgenograms in the horizontal position, it may be helpful to have the patient spend a few minutes lying on the right side as a preliminary.

Modern technical perfection demands the use of some artifice for producing compressions, every effort being made to throw the gastric mucosa into relief. An entirely new list of diagnostic criteria have been built up on the basis of throwing into relief the interior of the digestive organs.

Filling Defect in Gastric Cancer. The type of filling defect will depend upon the nature of the malignant growth, whether it is medullary, papillary or scirrhous carcinoma, and in rare cases of mucosal carcinoma a defect will not be seen except under the most favorable conditions. It is often possible to state from the x-ray study the type of malignancy present. From the prognostic standpoint, one wishes especially to know whether a tumor is resectable by radical operation. A sharply defined tumor definitely protruding into the gastric lumen, suggestive of a

polypoid or papillary growth not prone to ulceration present a relatively good prognosis. Deeply ulcerating lesions with well circumscribed boundaries, relatively sharply defined are likely to be resectable. Diffuse infiltrating lesions with very indistinct boundaries are much less likely to be resectable. Lesser curvature lesions are often misleading, being much more extensive than indicated by the filling defect. It is important to bear in mind that greater curvature tumors, especially in the middle third, are often associated with a carcinoma of the pancreas, not at all resectable. The surgical indications will be all the more valuable if the examiner conducts his study, at least the fluoroscopic part of it, with the stomach nearly empty, but under compression.

Some common pitfalls in the diagnosis of filling defects in the stomach should be recalled, such as: 1. The pressure of normal neighboring organs, particularly the colon. This organ distended by gas or other content may be very confusing by its pressure against the greater curvature or the posterior wall. The so-called cascade stomach is perhaps most commonly due to the pressure from the gas-distended colon, especially when the patient is studied in the erect position. Compression of the stomach against the spine, especially a lordotic spine, or against the aorta has in a few cases to my certain knowledge led to a pseudo-filling defect and an exploratory laparotomy.

2. A filling defect in the gastric shadow suggesting an intrinsic lesion may be easily caused in some cases of cancer of the pancreatic head or by a distended gall bladder. Other extraventricular lesions or conditions which may cause an apparent filling defect in the stomach are carcinoma of the transverse colon, mesocolic tumors and chronic perigastric changes. The presence in the stomach of non-opaque food residues, especially curdled milk, may confuse, as also gastrospasm. The latter may even simulate a tumor clinically. Dietlen reports the case of a 39-year-old man with definite gastric clinical symptoms of carcinoma including the roentgenological demonstration of antrum defect, antiperistalsis and pyloric insufficiency, who at operation showed a tumor near the pylorus which disappeared during the resection. Careful pathological study of the resected specimen showed no tumor but a small submucous phlegmon which was finally accepted as the cause of the spasm. Tabes may be responsible for form changes due to spastic contractures. One may even see in carcinoma spastic indrawings, such as are supposed to characterize gastric ulcer. Gastrospasm may be noted in lesions of the gastric or duodenal wall, but also in gallstones, tabes, hyperthyroidism, and hysteria. Exclusion of such causes is greatly aided by repeated study under atropin given to the full physiological effect.

Peristalsis in Gastric Carcinoma. In every carcinoma of the stomach amenable to roentgenologic detection there is some disturbance of peristalsis. Of course, it is conceivable that in the very earliest mucosal stage of a cancer, this malbehavior may escape detection. In the lesions in the lower half of the stomach which have passed the very initial stage, the peristaltic waves halt at the proximal edge of the growth, resuming at the distal edge. Serial or even cinematographic films made in such a way as to permit superposition of shadows to make a composite tracing of a number of shadow records, should reveal positive findings of a sort of "dead" or motionless area, proving a zone of inelastic gastric wall. Naturally, in stenosing lesions, one sees the typical hyperperistalsis of pyloric obstruction, and at times antiperistalsis. It should be recalled, however, that there may be a stage early in the development of a pyloric zone carcinoma when the sphincter is rendered inefficient because held open by malignant infiltration. This stage does not persist after the growth attains advancement sufficient to stenose.

Mobility of the Stomach. Normally the stomach exhibits considerable mobility. In carcinoma this mobility, or movability, especially of the pyloric end, may be considerably diminished. This is true to a lesser extent with ulcer, both showing less free active and passive movements than the normal stomach. Very marked restriction of mobility speaks aganist operability.

Gastric Motility. The emptying time of the carcinomatous stomach is usually normal or accelerated unless the lesion is situated near the pylorus and produces stenosis. The quick clearance is due both to the achylia present in a large percentage of cases, and to a disturbance or absence of pyloric reflexes (Haudek). In general it may be said that gastric carcinoma causes no

delay in the gastric clearance. Only when the pylorus is primarily or secondarily involved in the malignant disease does retention appear. Practically, it is well to note retention carefully as it has a bearing on the surgical indication, favoring a gastroenterostomy even in cases evidently not suitable for resection, providing any surgery at all can be considered.

Carcinoma of the Cardia. About 10% of malignant tumors of the stomach are situated at the fundus. When the cardia is involved, there is to be expected secondary stasis in the more or less dilated esophagus. Indeed, as pointed out by the writer in 1913, one of the first manifestations of such malignant infiltration into the cardiac sphincter area may be a marked cardiospasm, which only later comes to be recognized as due to carcinoma. Examination of the esophagus and stomach simultaneously visualized, maintaining the patient in the horizontal or Trendelenburg posture, will be of help in differentiating early cardiospasm from malignant disease of the cardia. The esophageal dilation in idiopathic dilation of the esophagus (achalasia of the cardia) is much greater than that ever attained in malignant disease.

In fundal carcinoma every resource of the roentgenologist will be taxed, including air distention, change of position, compression by hand, palpator or balloon, and the use of both screen and film records.

Carcinoma of Body of Stomach. This lesion constitutes about 20% of gastric cancers; it is relatively rare on the greater curvature. No particular description is needed; unless an organic hour-glass stomach is produced sufficient to cause stenosis, there is no gastric delay.

Pyloric Carcinoma. Malignant disease of the stomach involves the pars pylorica in about 60% of cases. This tumor is often palpable, and often associated with retention. Here we find the largest proportion of operable growths. Yet one is confronted here also with the greatest liability to error with very early lesions. Once again let us refer to the newer method of compression on a slightly filled stomach to bring out the mucosal relief.

Generalized schirrous carcinoma of the stomach is usually recognizable if one is not too sparing with his film records.

The differential diagnosis, especially with reference to benign gastric tumors, constitutes another chapter into which space here does not permit incursion. Pedunculated myoma and other tumors, neuroma, lipoma, syphilis, and foreign bodies, such as hair balls, all come in for consideration.

Summary. The technic of examination and the diagnostic criteria in relation to gastric cancer are reviewed.

Special reference is made to the thoroughness of the roentgen diagnostic technic, and recommendation for the adoption of the technic of visualization of the internal relief of the stomach to bring out mucosal details as the best means of earlier diagnosis.

IMMUNIZATION BY MEANS OF BACTERIAL ANTIGENS

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Many volumes have been written on this subject and it is obviously impossible to exhaustively deal with it in a single, necessarily brief, paper. However, owing to much of the experimental work being reported only in the technical journals, and therefore not readily available to the physician in active practice, I will review briefly only some of the more important and later advances on this subject.

While prophylaxis is also of great importance to the physician, we will concern ourselves more with the treatment of actual existing infections.

We all are aware that a more solid immunity usually results following natural recovery from an infectious disease and that living viruses are more potent for this purpose than the various modifications heretofore proposed. This indicates that the ideal antigen is a modified form of a living virus, exemplified particularly in the use of smallpox vaccine.

Except in this particular instance, and possibly a few others, the inherent dangers have often weighed against it. However, it probably holds the greatest hope for success.

We have, therefore, turned to some other modification to be used as an antigent. The best known of these antigens, the bacterial vaccines, have been used for the past twenty-five years with more or less reported success, but it is impossible, at present, to determine accurately their scientific value. Reports in the literature

are extremely conflicting and depend to a great extent upon the attitude of the physician. Nevertheless, their continued use and proven value in prophylaxis would indicate that they possess great possibilities.

Further, I believe it is not out of order to state that there are many apparently uncontrollable factors which determine the ultimate results, such as the nature of the infection, constitution of the individual, method of administration, composition and method of preparation of the vaccine itself, et cetera.

Many agree with Kolmer "There must be something of real merit in this therapeutic field to have had vaccine therapy survive all the defective technique and abuses committed in its name during the past several decades."

Bacterial antigens must, of necessity, include not only the protein of the bacterial bodies themselves, but also other proteins, especially the class known as toxins, elaborated by certain of them. Bacterial toxins are apparently of greater prophylactic than therapeutic value and, as you are well aware, have been modified in various ways for clinical use, particularly toxin-antitoxin mixtures and formalized toxins and otherwise modified toxic filtrates, under the genral name toxoid. So also bacterial bodies are used either as heat, or chemically killed organisms, or combined with antibodies (sero-bacterins) or various extracts (immunogens) or two more recent modifications, anti-virus and bacteriophage.

All true bacterial antigens, so far as we are aware, are protein in nature and, of necessity, foreign to the tissue cells; they are also in the colloidal state. While certain physical and chemical modifications do not denature them sufficiently to prevent their stimulating a specific response when injected into the body, harsh treatment such as coagulation, renders them useless or impotent, that is incapable of eliciting such a response.

Immunization by means of these antigens for prophylactic purposes probably depends upon the specific antibody production resulting. For therapeutic purposes, however, nonspecific effects, also, have great importance. The clinical use of bacterins to produce the most satisfactory result, obviously requires the use of the specific antigen concerned in the patient's infection to stimulate the production of specific antibodies as well as produce collateral nonspecific effects. Obviously antigens cannot be of value unless the patient's cells are capable of responding in a typical manner. We have, thus, two major factors; the proper antigen and, of equal or greater importance for therapeutic purposes, the ability of the patient's cells to respond. It is obvious that if the patient's cells respond, a nonspecific effect may be produced by any antigen.

The physician has little or no control over the first, except in so far as he may attempt to determine the specific antigen or organism actually responsible for the infection. The antigen he uses comes to him, in most cases, ready prepared; its exact method of preparation and the antigenic value upon which it depends are beyond his control. Therefore, there is a vast field of possible error in the selection and preparation of the antigen that may often doom his results to failure at the very onset.

The other factor, the patient is more or less under his control and judgment, as to the ability of the patient's cells to react following a suitable dose at proper intervals. The latter must depend upon the physician's judgment and experience.

As to the antigent itself, there are many points of interest that do not actually concern the physician, except in an academic way, however, I believe I have indicated in general the great possibilities for failure due to the improper selection of the type of antigen or its improper preparation.

Of the various methods of administration, it is obvious that, except in certain special cases, oral administration, owing to the possibility of the antigen being digested and thereby denatured, thus losing much of its specific nature, is not the preferable method at present. Subcutaneous administration has been the general rule, although intramuscular use is also advantageous. Intraperitoneal, intraplural and even intravenous administration have their advocates, and possibilities. Recently, however, intracutaneous injection has been observed particularly in localized pyodermic infections to be much more important than heretofore surmised. This has received considerable impetus lately following the work of Besredka and his theory of local tissue immunity or resistance, a condition that unquestionably exists although the Besredka theory of its mechanism is not generally accepted.

One of the greatest difficulties in therapeutic

immunization is due to the fact that all inclusive generalizations are too prone to follow results in a single specific disease. An outstanding example of this followed the results of Behring with diphtheria antitoxin. It was immediately considered that all infectious diseases were toxemias and that it would be only a matter of time before antitoxins or serums for all of them were available and equally as efficient. In pure toxemias the results have been good, with others the efficiency is less.

The therapeutic value of antibacterial sera depends upon antibodies which require complement and, in some cases, the ability of the patient's phagocytes to function.

The most important reason for the lesser efficiency is the extreme specificity of these sera. They are specific for the homologous type of the organism and of little influence over any heterogeneous type.

In diphtheria bacilli we have at least five immuniologic types distinguished by the action of the antibacterial antibodies, but all five types produce toxins identical in effect and all are neutralized by a single antitoxin. This is also true of the tetanus bacillus.

It may be interesting to digress here for a moment to consider the recent work on antigens which may throw some light on the above statements. Recent work with pneumococci, particularly by Avery and his associates, has shown that the specificity of a bacterial antigen may be determined by a carbohydrate linked chemically to the protein. He has isolated a definite polysaccharid, found abundantly in the capsules, from type III pneumococci, which is not an antigen itself, but which when combined with the bacterial cell protein, or even some other protein, will produce specific antibodies for type III pneumococci and will protect animals against type III pneumococcus infection. This carbohydrate alone, that is uncombined with protein, does not produce immunity and type III pneumococci, devoid of the carbohydrate, produce only a species specific immunity for pneumococci that will not protect the animal from a virulent type III pneumococcus infection. Therefore, the carbohydrate determines the type specific response and protection, whereas the pneumococcus bodies produce only a species response.

From this it naturally follows that the use of a bacterial antigen, made from type III pneumococci, but containing none of the specific carbohydrate, will be of little or no value in an infection produced by type III virulent organisms as the antigen used is not type specific.

Such carbohydrates have been found in a number of diverse organisms (pneumococci, streptococci, staphylococci, meningococci, tubercle bacilli, Friedlander, influenza, typhoid bacilli and yeasts) and may serve to explain failure of proper therapeutic response following the injection of bacterins prepared from species specific, but not from type specific organisms.

Thus we see that the greatest hope for therapeutic immunization in certain infections by means of bacterial antigens, lies in their proper preparation from the specific type of organism containing the type specific carbohydrate, and satisfactory results will probably not be forthcoming otherwise. This selection of the proper organism for the preparation of a vaccine or other bacterial antigen apparently is of major importance, particularly so since our knowledge of types of the various species of bacteria are being most profoundly modified at the present time.

Just as the chemist's conception of matter as being composed of unchangeable atoms which was considered a proven fact for many years has recently been upset completely by the new electron theory, so also, the bacteriologists' idea that a definite morphology and colony type was unvarying, is now being upset. Morphology and cultural characteristics have passed as criterions of bacterial species.

Although it is true that different types among certain organisms of the same species were detectable principally by immunilogical tests, it is only recently that definite variations in the cultural and morphologic appearances of a single species of organisms have been definitely recognized.

We now have S and R types, smooth and rough, depending upon the appearance of the colony, in general the S forms being more virulent; also a series of intermediary forms, variously classified as SR or O types. In some instances, however, the R type is the more virulent. Very recently it has been shown by Hadley, that there is a filterable form of many organisms called by him the G type. Professor Kendall, Northwestern University, by means of his new K medium, is able to readily grow this filterable form and

has been able to change it from the filterable to the nonfilterable form and vice versa.

It is too early as yet to determine the nature of these G forms and their value as bacterial antigens. However, Hadley has apparently definitely demonstrated, what many have long believed, that bacteriophage is not a living virus, causing lysis of bacteria. He believes bacteriophage consists of the G form of the organism and states, "Indeed, it appears highly doubtful that even the most voracious strain of bacteriophage ever actually 'destroyed' a bacterial cell. The true function of the bacteriophage is not to destroy, but to transform them."

In the light of this work the theory that bacteriophage caused lysis of the organisms and thereby destroyed them in the body is untenable. It will be necessary for us to revise our theory of bacteriophage action entirely. While it appears that when bacteriophage is added to a culture of actively growing organisms, they apparently disappear, they have not been lysed or dissolved, but have merely changed their cyclo stage to that of the G form. This may explain also why bacteriophage is not active except in rapidly growing cultures capable of making such a change. The statement that bacteriophage, when filtered through a Birkefeld filter and tested by ordinary methods, was sterile, does not hold true, as both Kendall and Hadley have demonstrated.

This so-called sterile material contains living cultivatable organisms, provided the proper medium is supplied, and these organisms may, by proper cultivation, be reverted to the original morphology and cultural characteristics. Kendall has also demonstrated that these G forms are present in Besradka's antivirus, therefore, it would seem that some substance or condition tends to cause the organisms to change their cyclo stage, whereby they are no longer recognizable as the original organism by the previously commonly accepted bacteriologic technique.

These G forms have been noted and described by bacteriologists even in early times, but their exact significance was not understood and many times they were considered mutations. The Munch granules of the tubercle bacilli which were among the first described, probably belong in this category.

Our ideas of immunity are also definitely changed, the two well known theories, the phagocytic theory of Metchnikoff and the humoral or chemical theory of Ehrlich have been found inadequate. There is now ample evidence that a third factor exists, an additional cellular effect, somewhat similar to Metchnikoff's, which concerns the active part played by the reticuloendothelial system, particularly the cells known as clasmatocytes. The work of Gay and his associates on resistance to disease, particularly local resistance, is extremely interesting and he has shown also that we may produce, by intradermal injection of antigens, better protection against an intradermal infection, than when immunizing doses are given otherwise. He has also shown that this resistance depends upon the clasmatocytes. Of great interest, particularly bearing upon the action of bacteriophage and antivirus, are his results with injection of plain broth. He has shown that particularly the meat extractives in plain broth, if injected intradermally, produce complete protection against a hundred minimum lethal doses of a streptococcus that produces erysipelas.

He has also shown, in a series of very carefully controlled experiments, that by the intraplural injection of plain broth, there is rapidly produced a greatly increased clasmatocyte count, seventy-five times as great as that normally found. The injection of several times the fatal dose of streptococci into the plural cavity of an animal so prepared is followed by sterilization of that cavity in from three to six hours; the animal not succumbing to the disease, and there is no negative phase. He has also proved that skin, muscle and connective tissue possess this protecting mechanism. Therefore, apparently three factors are, at least theoretically, concerned in immunity, the clasmatocytes, antibodies and leukocytes.

Clinically, interest at present is actively concerned with two of the later developments in the treatment of infections, bacteriophage and antivirus. There are many reports in the literature concerning their value. However, the theories of their action are rapidly undergoing change. These reports, as with the reports of results following the use of bacterial vaccines, are confusing. The consensus of opinion is that while the reports of excellent results following their use vary from forty to ninety per cent., results may be expected in approximately fifty per cent. of a large series of cases.

While these products are apparently in the opinion of many, quite diverse, yet it will be easily recognized, from a consideration of the previously mentioned facts that they may have much in common.

Bacteriophage is prepared by adding a small amount of phage to an actively growing culture which is then incubated and which results in apparent lysis, with the disappearance of the organisms, a clearing of the fluid, in about six hours. This is then filtered through a Birkefeld filter and is ready for use. It contains meat extractives and peptones from the medium and the products of bacterial metabolism. While it is sterile to the usual bacteriologic tests, nevertheless has recently been proven not to be so as it contains the living G form of the organisms. It also contains a substance that tends to perpetuate the so-called lysis.

The antivirus of Besredka is prepared by growing the organism in bouillon for a long period of time, filtering and reinoculating until further growth does not appear. After the last filtration, it is apparently sterile, like bacteriophage, but only apparently so. It also contains the meat extractives and peptones of the original culture medium, as well as the products of bacterial metabolism, and as shown by Kendall, living cultivatable G forms of the organisms. It would appear, therefore, that there is not a great difference in these two products, with the possible exception that bacteriophage is more powerful in effecting a change in the cyclo stage of the organisms. Antivirus is more heat resistent than bacteriophage and that possibly antivirus may contain relatively more specific bacterial antigen and possibly bacteriophage.

They are used in an identical manner, either as wet dressings applied to the lesions, or normal skin, preferably after it has been prepared, in order that absorption may take place, or by subcutaneous or intradermal injection.

It would appear that the immunity, or resistance, conferred by these products may be both specific and non-specific in nature, due to the stimulating effect upon the clasmatocytes, by the meat extractives contained, and also, to the modified yet specific bacterial proteins present. The value or part that the living filterable form of the organism, as found in these products plays in this process is as yet undetermined.

It is difficult to evaluate the causes of failure in any series of cases in which these products are used, owing to the diversity of factors involved. However, it may be presumed that when these products are used, and the patient's cells be not overwhelmed as to be incapable of responding to the stimulus, results should be forthcoming. Why certain observers report excellent results in a large majority of cases, may well be due in a large measure, to the use of a proper antigen, as well as the experience of the observer, as regards his technique and the selection of cases.

The question naturally arises, if local tissue resistance sufficient to protect an animal against an infection may be produced by meat extractives, why use bacteriophage? Undoubtedly, the answer is because of the specific bacterial proteins or antigens contained in these products. It has been repeatedly demonstrated by clinical observation that a staphylococcus preparation is of moderate or no value in a colon bacillus infection and the advantage, therefore, of these products over simple meat extractives, lies in their content of specific bacterial antigens.

Further, it has been shown, in a small series of carefully controlled clinical cases by Larkin and Pratt, that the use of bacteriophage produced results in a much greater per cent. of cases of local infection than did either plain broth or bacteriophage from which the so-called lytic principle had been removed by charcoal. This would appear to indicate that while the nonspecific effect produced results in a certain per cent. of cases, yet the combined specific and nonspecific effect produces results in a much greater percentage.

Bacteriophage and antivirus, owing to the method of use and results claimed being practically identical, will be considered together. There is some evidence that it is essential to use a bacteriophage having a powerful effect upon the particular organism causing the infection in the case to be treated. Many observers even suggest that the action of the phage be tested upon the organism isolated from the case. This would again point to the specificity of the antigen.

They may be used as a wet dressing, preferably applied to the lesion or to the normal skin after it has been prepared by slight abrasion to insure absorption. Local applications are also

made in the form of a jelly. These wet dressings may be continuously applied, or in ambulant cases, only at night.

Two routes of injection are employed, first, subcutaneously into normal tissue, or into the lesion (this latter is avoided by some observers), second, intradermal injection. In local pyodermic infections, this is probably more efficacious and smaller doses are used.

The dose varies from one-fourth to two, or even four cc., beginning with a smaller dose and gradually increasing if a reaction does not occur.

The intervals between doses may be twenty-four to seventy-two hours.

Reactions with small doses are few, local and of little consequence. Systemic reactions are extremely rare. Local anaphylactic phenomena following repeated doses intradermally in the same site may be severe, showing infiltration, edema, sterile abscesses and even necrosis at the point of injection. This is the so-called Arthus phenomenon and indicates a local tissue sensitization. It is extremely rare in man following subcutaneous injections.

Results are usually prompt, pain is frequently relieved in twenty-four hours, often less, and apparently many local infectious processes are aborted, otherwise their course is more rapid, and the purulent discharge when evacuated, is more fluid than usual. The remaining lesion heals more rapidly, resultant scarring is reduced, due to more rapid healing and limitation of the destructive process.

In deep seated furuncles, cessation of pain, liquefication and reduction of induration and resolution often occur in a few days.

In chronic infections, while improvement is possible in most cases, it has been noted to be more rapid where a local reaction occurs at the site of injection.

The results in the pustular form of acne, while excellent in the occasional case, are rather disappointing.

This is the preferable method of treatment for local, encapsulated, pyodermic infections, especially in certain regions where surgical interference may be fraught with serious consequences, such as the nose, cheek and upper lip.

In general, toxemia and the accompanying depression and pain are rapidly relieved. Excellent results are reported in practically one hundred per cent. of cases of impetigo in children particularly in the epidemic variety, by simple local application.

Local superficial colon bacillus infections are also amenable to this treatment. Colon bacillus pyelitis, however, only occasionally responds, probably due to the original lesions being in the intestines, which are the source of the bacteria.

Two cases of staphylococcus meningitis have been reported to have been rapidly relieved by the intradermal and intraspinal use of staphylococcus bacteriophage and it is also reported of value in the treatment of streptococcus and staphylococcus colitis. It appears to be of no value, however, in staphylococcus pyemia, or other blood infections.

It would seem that the use of bacterial antigens in the treatment of infections, even as at present practiced, holds an undoubted measure of value. All observers are practically unanimously agreed that the procedure presents but little possibility of danger and further does not interfere, nor is it interfered with, by other methods of treatment commonly employed. Therefore, notwithstanding that while this method is lauded by some and decried by others, it would, nevertheless, be the logical procedure on the part of the physician in the hope that a fair proportion, at least, of his cases will be decidedly benefited thereby.

CONCLUSIONS

Prophylactic immunization by means of bacterial antigens is of proven value and depends largely upon the specific antibody response.

Therapeutic results are due to both specific and nonspecific effects.

The selection and proper preparation of the antigen are of great importance.

The route of administration and dosage are also factors influencing the result.

Bacterial antigens are not contraindicated in acute infections, even if generalized.

Therapeutic immunization is relatively without danger and holds ample promise of distinct value in many cases.

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THE INJECTION TREATMENT OF VARICOSE VEINS

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Few, if any innovations in modern therapeutics have met with such instant and almost unanimous approval and acceptance by the medical profession as the treatment of varicose veins by the injection of sclerosing solutions. Therefore, unprecedented interest is shown in this now accepted and standard procedure whose wide acceptance is due in a very large measure to the French clinicians Sicard, Paref and Forestier. The injection method is now the method of election and, when indicated, entirely supersedes surgical excision except when, on account of special reasons or contraindications, it is not applicable. Following its successful employment, there is in addition to the obliteration of the varicose veins an early disappearance of the co-existing edema, swelling, tired feeling, and leg, ankle and foot pains. The injection method has been so extensively and satisfactorily applied and clinically reported upon in such large series of cases by different operators all over the world, that its value and superiority over other existing methods is now firmly established. It is an ambulatory method of treatment, inexpensive in nature and calling for no rest in bed and no detention from work. Unlike operative measures, it entails no disfiguring, no mutilating scars; but, like many of the operative procedures on varicose veins, it is at times followed by recurrences. It is most desirable that the drawbacks, inherent to the method itself, or that complications arising from its faulty application should be brought out and clearly understood. It is one of the principal objects of this paper to so review recent important reports on the subject as to direct notice to the limitations and shortcomings of the method. Only the most valuable contributions will be discussed.

Statistical Data. Omitting minor reports, the literature of the past couple of years contains important series of cases of varicose veins and varicose ulcers treated by the injection method. Most of these reports include a fair proportion of cases in which the varicosities were complicated by hemorrhage, ulcers of varying area and depths, edema (lymph and venous) and inflammation, acute or chronic.

Schmier reports approximately 3,000 cases of varicose veins with more than 10,000 injections; Hayes made 10,000 injections in over 1,000 patients in a period of 8½ years; White treated 750 cases; Logefiel 500 cases with over 5,000 injection treatments, with 41 failures; Kilbourne collected 4,607 cases from 34 hospitals; Fraenkel in less than 3 years made 7,000 injections in 1,013 patients, without any serious mishap; Pennoyer in one year made 500 injections in 218 cases; Riehl treated over 1,000 cases with good results; Zimmerman over 4,000 injections in 600 patients within 3 years with no serious complications; Levi made 4,000 injections within 4 years; Wright cured 324 of 478 cases of varicose ulcer within 2 years; Angle reports 2,500 injections; Matyas over 200 successfully treated cases; Cavallucci 156 cases complicated with eczema or ulcer; Gillespie and Strobell 405 injections in 81 cases; Ferguson and Loefflad 72 cases with 510 injections; Stuebner 104 cases with only one failure and 96 per cent. of ulcers cured.

In October, 1930, in a study of the subject, I reported my experiences with 300 patients who had taken a complete course of the injection treatment. Forty of them had varicose ulcers and a much larger number presented an eczematous condition of the skin.

Sodium salicylate in 20 to 40 per cent. solution was used. There was no fatality. Temporary cramping and edema were observed in a large number, sloughing occurred in several cases. In four, the recovery from these sloughs was very tedious. There was a recurrence of the varicosities after several months in 12 cases. I still continue to use, preferably, sodium salicylate in solutions of different strengths, as it has now given me most satisfactory and most gratifying results in over 900 cases. The injection treatment has the advantages of painlessness, simplicity, safety and efficacy. It can be employed in patients of any age. It appeals to patients as it does not call for either anesthesia, local or general, or for hospitalization. In fact, it is purely an office treatment and the use of the limbs following the injection minimizes the incidence of embolism; the danger of embolism with the infection treatment is practically nonexistent.

A general consideration of the clinical reports to be found in the medical literature shows that in from 80 to 85 per cent. of the cases the treatment is followed by good and apparently permanent results, satisfactory to the patients. The failures of the injection treatment are due to diagnostic errors, to the employment of unsuitable solutions, to faulty technic or to improper post-injection care. A small percentage of recurrences is observed after the treatment and this is easily understood, because we have as yet no precise knowledge of the exciting causes of varicosities. The recurrence of the condition in my cases was due rarely to the recanalization of the obliterated vein; most always the recurrence was due to pre-existing non-varicose veins becoming dilated, elongated, tortuous and varicosed.

Clinical experience has brought to light some of the disadvantages of sclerosing solutions formerly and now in use. Added clinical experience has begotten improvements in technique and in selection and in post-infection treatment of cases. Some of the earlier used solutions, although they were effective in obliterating varices, have been discarded because they caused either dangerous or undesirable local or systemic reactions, and have been replaced by more effective mixtures, causing minimized reactions, having a more rapid action, and allowing multiple injections at one sitting without too great inconvenience to the patient. The ideal, of course, would be to obtain a sclerosing substance which would cause rapid thrombosis and have little or no effect on the perivascular tissues even if some escaped during the injection. With the injection method, it is quite possible to initiate a course of treatment, interrupt it and start it again at will. Clinical experience has shown that the solutions of sodium salts have the most marked sclerosing action, but their use is attended, at times, by most marked cramping and perivenous reactive effects; the sugars (dextrose, invert sugar) used alone, are much less irritating but must be employed in larger amounts to be effective. The sclerosing agents in use determine an endovenitis: irritation of the venal endothelium, congestion, cellular proliferation, connective tissue formation and final conversion of the injected vein into a fibrous strand.

Perusal of the literature shows that an ideal sclerosing solution has not yet been found, nevertheless the sodium salts (the chloride or salicylate) alone or admixed with one of the sugars secure a satisfactory and rapid sclerosing action. These salts are effective on the vein intima. They are, however, irritant and toxic to the perivenous tissue and a painful or inflammatory reaction follows when they escape into the perivenous tissues.

A mixture of sodium chloride and dextrose (sodium chloride 30 per cent.; dextrose 50 per cent), mostly in equal parts, is preferred by many, such as Strickler, De Takats, Angle, and McPheeters (who also uses a mixture of invert and cane sugars with sodium chloride). Smith reports excellent results with 50 per cent. dextrose solution and with quinine and urethane, the latter especially in cases that are not severe.

In England, sodium morrhuate has been used extensively. Levi has not seen a single ulcer following 4,000 injections of sodium morrhuate. Payne prefers it for injecting thin-walled veins. Wright claims 324 cures out of 478 cases of indolent varicose ulcers, treated with five per cent. sodium morrhuate. Though Higgins and Kittel recommend this sclerosing agent and claim: 1, That it is free from the risk of generalized toxic effects; 2, That the phlebitis it induces is effective and complete; 3, That the risk of local complications is slight; and 4, That the treatment is as free from pain as can be reasonably expected from any artifically induced inflammatory process, yet a few alarming accidents following its use have mitigated against its more general adoption and have shown that it is not an agent entirely devoid of danger.

Calarose, a mixture of invert and cane sugars, continues to be used to some extent in Germany, and White reports good results from Genevrier's solution.

Maignon, Grandeclaude and Lambret use a solution of 50 to 75 per cent. of glycerine in distilled water. In experiments on dogs, this has proved more sclerosing than the injections commonly employed and is, according to the authors, much less liable than the organic solutions to cause harmful reactions. In the human subject, it has been tried in many cases with great success, especially in aged persons. If spilled in the perivascular tissues, it causes neither local nor general reactions. All the above mentioned sclerosing agents are marketed in suitably prepared ampoules of appropriate dosage.

Multiple and Massive Injections. The great improvements in sclerosing agents have led to the practice of multiple injections at one sitting, and a more rapid extension of this practice in the future is expected as patients seemingly have no more trouble with several than with a single injection. The saving of time both for physician and patient is considerable. The comparative absence of any severe pain with the newer sclerosing agents is a factor. McPheeters prefers to treat the whole case at one sitting, whether on one or both legs. He has as yet found very few imitators. In very large varicose veins, Scott prefers twin injections in the vein made simultaneously at 3 to 5 inches apart.

Regarding massive doses, Louvel shows that since the use of caustics was seen to be without apparent clinical harm, massive doses were used with impunity. But such massive injections have a tendency to surpass their avowed object of obliteration of the vessel. The reaction to the caustic not alone involves the endothelium and the muscular coat of the vessel but the adventitia also, affecting the vasa venorum and the meshes of the sympathetic nerve supply. The result may be a veritable perivenous sympathectomy with paralysis which cuts off the blood supply from the adjacent venous walls. It is better that the adventitia be spared as much as possible from the effects of caustic agents and that massive injections be avoided.

Failures Following the Injection Treatment. Jentzer observes that the injection method of treating varicosities fails in from 3 to 4 per cent. of the cases without know reason. De Takats and Quint had 10.8 per cent. of failures in their fully treated series of cases. The failures occur especially in cases: 1, With long saphenous veins wide open with incompetent valves so that back pressure may canalize the created thrombus. Recanalization is nature's natural effort to restore the lumen if the thrombus is not firm or hard; 2, With large saccular dilatations with intima not intact and with extensive scar formation (such an intima does not react to a bland stimulus); 3, In whom the Trendelenburg test is doubly positive indicating a reflux from the deep circulation as a result of incompetent valves in the anastomoses between the superficial and deep venous systems.

Fatalities and Other Complications Attending the Injection Method. Though the injection method of treating varicose veins is completely successful in the very great majority of cases, not infrequently there are rather serious complications, not generally due to the method itself but rather to improper or unskillful applications of it. These complications come under the headings of fatalities due to embolism or other cause, of sloughs and necroses at the site of injection or of abscesses from infiltration of the perivenous tissue by the sclerosing fluid.

The most extreme asepsis must be observed throughout this treatment. Oftentimes asepsis is entirely disregarded and the work is done with no attention paid to asepsis. McPheeters saw a case in which a fatal staphylococcus infection undoubtedly resulted from the injection treatment, and Isaak reports a case in which the pus of an abscess at the site of injection showed B. coli and streptococci.

There are, according to Laqua, nine deaths from embolism following injections from varicose veins, reported in the literature up to 1929. Kuhnau reports a case of fatal embolism in a man, shortly after the injection of calarose for occlusion of varicosities in the right leg. The saphenous vein had not been ligatured. Anschutz and Lohr report a case of fatal embolism following sodium chloride injection.

Mundt's fatality was due to chemical nephritis. The patient was a woman of 58. Sodium salicylate was first tried, beginning with 5 cc. of a 20 per cent. solution divided into three injections. As this had little effect on the varices, two days later 5 cc. of a 30 per cent. solution was injected and continued until a 40 per cent. solution was used and a total of 20 cc. of it injected. Then mercuric iodide and quinine and urethane were tried. The woman died some months later from acute chemical nephritis complicated by pulmonary edema and cardiac failure.

Comparing fatalities from embolism in surgical excision of varicose veins with their occurrence in their treatment by injection, Hope-Carlton showed that there is one death from embolism in every 100 surgical excisions. Kilbourne in his statistics of 4,607 cases of injection states that there is one death from embolism in every 250 surgically excised cases and that there are other surgical complications in about 1 per cent. Laqua states that the mortality from surgical excisions due to wound complications, post-operative pneumonia and embolism varies

from 0.5 to 1 per cent. but that in injection treatment it is only 0.02 per cent. Scott in 10,000 injections saw no case of embolism and many other reporters of large series of cases say the same thing.

Domanig compares the surgical and injection methods of treating varicose veins on the basis of 200 cases. Of these, 43 cases were treated operatively; there was one fatality from embolism and one non-fatal embolism. Seventeen cases were treated by operation combined with injection; there was one severe thrombosis with no infarct. Over 100 cases were treated ambulantly by injection; except in four cases which showed some slight inflammation, there was no complication.

Strickler thinks that when the patient is injected in the upright rather than in the recumbent position the danger of embolism is better avoided, and De Takats says that the logical way to prevent ascending thrombosis is by ligating the saphenous vein high up. This was done in 61 of his cases without mishap except for two cases of thrombosis distal to the ligature.

Green and Greene observed a fatal thyroid crisis precipitated after an injection treatment for varicose veins.

Apart, however, from fatalities, some fairly serious complications occur in a fair percentage of cases treated by sclerosing injections. Many of these are undoubtedly due to faulty or careless technic. Occasionally they happen when the greatest care is exerted. Sloughs occur more frequently than would be supposed from the literature. They are associated with the passage into the perivenous tissues of the sclerosing solution as by direct injection, or by leakage through the hole or holes made in the vein, or by bursting of the latter through overdistention. They are characterized by pain at the site of injection. Prolonged pain at site of injection is almost a positive sign of perivascular infiltration. The slough will not be recognized until a few days after the injection when either a bleb appears at the site of injection or an eschar resembling a bedsore occurs. A thin-walled vein transfixed by the injecting needle, may burst under the pressure of the injected fluid. Leakage may follow the withdrawal of the needle.

Perivascular infiltration results in a localized gangrene area which will slough leaving a deep crater-like ulcer which heals slowly (Smith). Kilbourne remarks that such necrotic areas may not heal for months or for years and he knew of a 14 months case.

Zimmerman thinks that sloughs do not occur more frequently than 1 in 1,000 injections. De Takats in more than 3,000 injections (50 per cent. dextrose) had not a single slough. Logefiel in 5,000 injections observed 3 severe sloughs, due to extravascular leakage from the puncture wound. In 3 other cases there was an ascending chemical phlebitis. Stuebner saw perivenitis in 1.06 per cent. of his cases and slough in 0.4 per cent. of his cases. Payne recorded 13 cases of chemical gangrene in 1,500 patients, and Higgins 12 in 200. Ferguson and Loefflad in 510 injections saw necrosis at site of injection in 2 cases.

Anschutz and Lohr state that in Laeven's case injection of mercuric iodide for varix led to phlegmonous gangrene which necessitated amputation of the foot five weeks after the last injection.

Pennoyer in 218 cases with 500 injections saw 6 resulting ulcers all due to faulty technic. In Gillespie and Strobell's 81 cases, 6 developed a marked chemical phlebitis and in 11 there was some sloughing at the site of injection.

Higgins recommends withdrawal of blood from the vein before injecting the chemical and also advises to retain the needle in the vein for a minute or so following the injection as well as applying pressure over the site.

Harcourt, when the injection has been made and before the needle is withdrawn, re-injects (by a stop-cock arrangement connected with the syringe) a few drops of the withdrawn blood thus clearing the needle of sclerosing substance and preventing trailing it through the tissues on withdrawing the needle. Smith says that a slanting position of the needle during the injection has no advantage, but only makes for confusion as the vein may be missed or torn with subcutaneous oozing.

McPheeters things that when a slough develops excision and immediate suture with non-absorbable material is probably the best mode of treatment. The following precautions must be taken in making the injection:

1. Have a good light. The injections may be made with the patient standing, sitting or lying down, preferably the latter.

2. Employ a sterile technic, a 26-gauge needle, preferably with a short bevel. If the

bevel of the needle is too long, the vein may be transfixed. If the bore of the needle is too large, leakage may occur.

3. Make the injection accurately into the lumen of the vein. The injection must be intravenous, never peri- or paravenous. Aspirate blood in syringe before, and at short intervals, while injecting so as to make sure that the needle is in vein.

4. Stop the injection immediately when there is doubt as to whether or not the solution is going into the lumen. The injection must be made intravenously not paravenously. If the patient complains of acute pain, determine its location and character. If it radiates along the course of the vein, it does not call for the cessation of the injection.

Yearly inspection is advisable. Neighboring superficial veins not infrequently dilate abnormally, becoming varicose and necessitate appropriate treatment.

A word should be said here in regard to the use of vein occluders. McPheeters, Carter, and several others, have devised metallic ring or wire occluders. Strickler uses a stethoscopic tubing occluder. Schmier recommends the double tourniquet method and Herzberg has devised a very ingenious double ligature apparatus consisting of two metal bands connected by a sliding handle. Very efficient work can be done without the use of any of these devices.

Recurrences. The question of recurrence is an important one as permanency of cure is one of the chief criteria when judging the value of the injection method as compared with the surgical excision of varicose veins. Laqua's statistics show that there is no recurrence in from 85 to 100 per cent. of the injected cases according to different authors. His figure for recurrence by this method is 14 per cent. for the average, while for surgical excision he considers there is from 20 to 40 per cent. of recurrences. Levi states that recurrence follows in 30 per cent. of surgical excisions, while Schwarz and Ratschow cite this figure as varying from 15 to 50 per cent.

Kilbourne's statistics give recurrence in 6 per cent. of injected cases. Gillespie and Strobell found 3 recurrences in 81 cases (nearly 4 per cent.). De Takats found the percentage higher, i. e., 10.8 per cent. in his series of patients who took the full course of treatment. He thinks that patients should be re-examined every three months during the first year. Also, that if the legs are not bandaged for some time after injection, the recent artificially formed thrombus may canalize and an early recurrence result. While such recanalization of thrombi may undoubtedly and does occur, yet, as Holman remarks, new varices may appear unquestionably due to failure to produce thrombosis up to the entrance of the saphenous vein into the femoral vein. Unwillingness to inject the saphenous vein near the fossa ovalis because of the danger of embolism may make a combination with surgery necessary.

The frequency of recurrence by recanalization is supported by the findings of Howard, Jackson and Mahon. Of 66 patients treated by them for varicose veins with sodium chloride (20 per cent.) 49 were examined a year or so following treatment. Of the 49 there was a recurrence in 48. There was recurrence in 79 per cent. of all patients treated and in 98 per cent. of all patients followed a year or more. This recurrence was by recanalization and the authors consider that interruption of the continuity of the vein by excision, especially in the presence of incompetent saphenous or perforating valves, is held to be vital in securing permanent relief. This high percentage of recurrences has not been noted by other observers.

The one most commonly discussed shortcoming of the injection treatment of varicose veins is the high percentage of recurrences. Recurrences are due to:

1. To the fact that the underlying cause of the condition is still present.

2. Too great dilution of the sclerosing fluid or insufficient concentration of the fluid.

3. Failure to thrombose the great saphenous vein in the thigh completely even to the saphenofemoral opening.

4. Normal recanalization, which is nature's natural effort if the thrombosis is not firm and hard.

To prevent recurrences:

1. Locate the great saphenous trunk and sclerose it up to the saphenofemoral opening.

2. Empty the veins before injecting, to aid concentration.

3. Localize the sclerosing fluid by the use of tourniquets or the Mac occluders, so as to prevent excessive dilution.

4. Choose sclerosing solutions according to

the type and size of veins; for the small, thin-walled veins use milder solutions, such as invert sugar. For larger saccular veins, I always use either 20 per cent. or 40 per cent. sodium salicylate solution. Many clinicians use dextrose with sodium chloride combinations and for the pickups, the quinine and urethane solutions.

5. Continue treatment until all the varicose veins are sclerosed satisfactorily. Palpation of the injected vein shows at first a slightly tender hard cord-like structure with some induration. There may result a local pigmentation which subsides entirely in a few weeks.

6. Have the patient return in two months after discharge for check-up and at longer intervals after that. Relapses are best managed by early treatment of the newly developing varicose veins.

7. Employ judicious after treatment: Forbid wearing of tight elastic garters. Advise against long maintenance of standing posture.

8. Remove any cause of obstruction to venous return-flow, as pelvic tumors.

9. Have patient avoid abdominal straining, such as excessive efforts during defecation, micturition, etc.

The Treatment of Varicose Ulcers. The curing of inveterate varicose ulcers by the injection and sclerosing of corresponding varicose veins has been one of the remarkable results of this method. Varicose veins impede the return of the blood, lead to congestion, impair nutrition and cause ulceration. Wright reports that within the past two years he has treated and cured 324 out of 478 cases of indolent varicose ulcers by injecting the highest veins with sodium morrhuate. Following the injection, the leg is firmly encased from foot to knee with a 3-inch spiral adhesive bandage overlaid with splints to avoid slipping. Any discharge will seep through the bandage and should be washed off with soap and water. The nearer the base of the ulcer is to the underlying bone, the slower will be the healing. The interval between the first and second treatment varies from two days to two months according to circumstances. When healing is complete support is given by a Unna bandage. Most of the cases were cured within a few months. Many of these patients had refused recommended amputation.

Pennoyer reports 26 cases of long-standing indolent ulcers cured by the injection method; Stuebner saw 96 per cent. of his ulcer cases similarly cured. Isaak insists that varicose ulcer of the leg is most successfully treated by obliteration of the varicose veins; he had remarkable cures in 100 cases of extensive crater-like ulcus cruris. He states that the frequently deep and extensive ulcers that are caused by embolic occlusion of the veins and surrounded by healthy skin, heal rapidly and permanently. Baker had successfully combined Unna's paste boot (continuous pressure) with injection of varicose veins in cases of varicose ulcer. Dainow treated 18 cases of varicose ulcer successfully with injections of acetylcholine hydrochlorate; 17 were cured in less than six weeks.

Contraindication and Precautions. The general contraindications to the sclerosing treatment of varicose veins and varicose ulcers remain about the same. It is important to elicit a thorough history and to make a complete physical examination. The contraindications follow:

A. *Systemic Diseases:*

Hyperthyroidism; active tuberculosis; acute colds; infections.

B. *Local Conditions:*

Impairment of the arterial circulation as in Raynaud's disease, in thrombo-angeitis obliterans; in lack of patency of deep veins; as in phlebitis of the deep veins in acute or subsiding superficial phlebitis.

In addition to the above some consider diabetes, cardiorenal disease, and arteriosclerosis as contraindications Higgins includes phlegmonous alba dolens and intermittent claudication. Pregnancy during the early months is not a contraindication nor are border-line cases of cardiorenal disease. If the varicosities are secondary or consecutive to an obstructive lesion in the pelvis, the causative lesion calls for removal.

To test blockage of the deeper veins, apply a constrictor about the thigh while the patient is standing and the superficial veins are engorged. The patient then walks about or works his leg actively. Due to the pumping effect of the alternate muscular contraction and relaxation the return of blood through the deep veins is facilitated and if these are patent the veins will empty. If the deep veins be competent, injection of the superficial varicose veins is permissible. The aim of treatment is to obliterate the superficial

varicose veins, and to utilize the deep veins for the return circulation. In a few cases, the saphenous vein will require ligation.

Avoid injecting irritating solutions in thin-walled veins which might easily rupture under injection. Make the injections from below up. Veins about the site of an ulcer should be avoided because the area is usually infected. Gillespie and Strobell introduce the needle in the skin at some distance from the varix and traverse quite a thickness of subcutaneous tissue before entering the vein.

Generally, when the injection of a certain solution fails to give results it is better to change the technic rather than persist with heavier injections of a solution which does not act.

Keep in mind that every dilated vein is not necessarily a varicose vein. The symptom may be due to some other condition than varicosity (arthritis deformans, flat-foot, pregnancy, etc.).

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CANCER AND THE PUBLIC HEALTH*

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Cancer is on the increase; there is no doubt about that. As a cause of death it has advanced from fifth place twenty-five years ago to second place today with an increase in frequency of 47 per cent. in men and 21 per cent. in women —a situation that most certainly demands attention from those concerned with the Public Health. The attitude, I fear, of most of us is that cancer is a hopeless and fatal disease and little or nothing can be done about it. But isn't this just about the attitude of the public and the medical men toward tuberculosis at the beginning of this century—thirty years ago? And today, with education of the public with regard to early symptoms, the better education of medical men in the recognition of early signs with the improved facilities for treatment throughout the state, the death rate from tuberculosis has been more than cut in two.

Tuberculosis is a disease of early adult life occurring usually between the ages of fifteen and forty years, and with the decrease in deaths from

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tuberculosis those who escape it live to reach the cancer age which is forty and beyond.

It has been estimated that the decrease in tuberculosis has added ten years to the span of human life—the greatest public health achievement of all time.

What is true of the tuberculosis campaign is true of infant welfare—every man is first a child and to become a man he must escape the hazards of infancy and childhood. These hazards of infancy and childhood are very real but fortunately again with the education of the public and increased efficiency of our medical men and better hospital and public health facilities the chances of a baby growing up are more than twice as good as they were twenty-five years past. A quarter of a century ago about 17 per cent. of all babies born died before they were a year old; at the present time this mortality has been reduced to only 7 per cent. and it should be further reduced to at least four per cent. for the country as a whole.

Malaria has disappeared with the draining of the land and the same is true of typhoid fever with the disappearance of shallow wells and improved sewage disposal. Diphtheria, the scourge of childhood, is under almost complete control and if I can read the signs of the times scarlet fever, the other really serious childhood menace, soon will be. Cutting down these hazards of infancy, childhood and early adult life means that people live longer.

We still have more than enough tuberculosis, twice too much infant mortality, and little or nothing has been accomplished in eliminating the acute respiratory diseases, but more has been accomplished in ridding the human body of disease in these past fifty years than in the whole previous history of the world.

But with these remarkable gains in the conservation of human life new problems present themselves—people live longer, it is true, but are confronted with a whole new set of diseases —the diseases of adult life. These are the diseases of the heart and blood vessels and cancer. They have displaced the diseases of infancy, childhood and adolescence as the most important causes of death and are now the real menaces that should be "viewed with alarm."

Of course, we cannot expect to live forever and would not want to, but a disease like cancer that takes a mother of forty away from her growing children or the death of a father at fifty that keeps the boy out of college is a real economic disaster but worse than that, in cancer, the death sentence lasts for several years, the pain is usually excruciating and literally the victim "dies by inches." Heart disease, cerebral hemorrhage, nephritis, arteriosclerosis are an economic loss but as a rule are painless—not so with cancer.

And cancer is increasing.

The startling rate of increase in cancer deaths in recent years can best be expressed in the so-called life tables used by the insurance companies. These tables show the probability of death from all causes from the first to the last year of life. After these computations have been made, a similar calculation can be made for any given disease or group of diseases and on the basis of deaths per hundred thousand tabulations or charts of the probability of death from any cause can be estimated.

Louis Dublin,[1] statistician of the Metropolitan Life Insurance Company, has constructed such tables for the years 1910, 1922 and 1924 from experience of the United States Registration Area. He has made separate tables for men and women which illustrate graphically the alarming increase in cancer in so short a time as fourteen years. On the basis of these life-probability tables between 1910 and 1924 there has been an increase of 47.3 per cent. in cancer in males and 21.4 per cent. in females.

How different are the life probability figures for tuberculosis. In males there has been a drop of 38 per cent. and in females a drop of 33.2 per cent. in the same length of time.

One may conclude from these figures that we are saving our babies, the children, and our young folks in order to give them a chance of dying of cancer.

This may be true, but it is only when we come to analyze cancer deaths according to groups and kinds that we can begin to see daylight. All cancers are not alike—cancer of the stomach is not the same as cancer of the breast—in fact cancer is not a disease in the usually accepted definition of the word but is a large group of heterogenous malignant growths affecting all the different parts of the body with widely varying degrees of severity depending upon the char-

1. Health and Wealth, by Louis I. Dublin, Harper & Bros. 1928.

acter of the cancer cells and the rate of their growth.

Some of these cancers are hidden and others in plain view, some may be recognized early and others only after they have become advanced; some are susceptible to treatment, others are resistant.

In cancers of the stomach and intestine (which are essentially hidden from view and whose symptomology is vague) there has been an increase of 2 per cent. a year and at the present time account for thirty-six per cent. of all cancer deaths.

In cancer of the mouth (including lips, gums, buccal cavity and tongue), which can be seen readily every day by anyone using a mirror, in these past fourteen years there has been a decisive and unmistakable decline. Such is the importance of early diagnosis.

While cancer of the intestinal tract has been increasing with such rapidity the death rate from cancer of the female genitalia—uterus and breast—has remained stationary—due I believe to improved diagnosis in part at least but especially to improved methods of treatment. By this I mean the introduction and improvement of radiation therapy by penetrating x-rays and radium either alone or in conjunction with surgery. In cancer of the skin the death rate is stationary. Thus in certain groups of cancer the rate of increase is stationary or declining. These are the cancers of the skin, mouth, breast and uterus.

In another group the rate of increase is alarming—these are the cancers of the stomach, intestine, lungs, pleura and urinary tract.

It is significant that in the first group radiation therapy—x-ray and radium—have proven their worth and it is not too much to say that they are responsible in a large part at least for stopping the upward march of the mortality figures.

That x-rays and the gamma rays of radium are more lethel to cancer cells than to normal cell growth in an established basic fact of years standing but like the development of the automobile it is a long way from the two cylinder horseless carriage of 1910 to the 8 cylinder smooth running powerful cars of today.

The radiation of cancer today represents as much of an advance as a powerful and effective agent as the present day automobile does in comparison to its predecessor—the "horseless carriage."

Larger quantities of radium with heavier filtration, more powerful x-ray machines with many hundred times more penetrating rays together with standardized surgical procedures make the future less gloomy than it appears to be at first glance.

"A forty-seven per cent. increase for males and a twenty-one per cent. increase for females in so short a time as fifteen years ought to call for a sharp revision of our conception of the seriousness of the cancer problem as it now confronts us. Particularly should the attitude of the medical and public health professions toward this disease be revised. The efforts which have been made during the past ten years to deal with cancer are, in light of our figures, relatively puny." (Louis Dublin.)

Cancer is not hopeless and incurable, it is not a disease of old age alone but occurs in adult life during the most productive years. Progress is and can be made to overcome it.

"Where we ought to be spending millions for research we are spending thousands; where we have a few hundred physicians trained to recognize and treat cancerous states we need thousands." (Dublin.)

What are we going to do about it?

PERSISTENT VOMITING IN A NON-GRAVID NULLIPARA CURED BY DILATATION AND CAUTERIZATION OF THE CERVIX UTERI

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Davis[1] reports a case of pernicious vomiting of pregnancy in which vomiting ceased after dilating a rigid, thickened and tightly closed internal os. At autopsy, two retention cysts were found in the cervix. In discussion of this paper, Wylie holds that dilatation of the cervix in primiparae will stop vomiting in four out of five cases and Dudley states that he stopped it in two cases by tapping the cysts of a lacerated cervix. Dudley gave medicine by mouth in addition. Miller[2] calls attention to a rigid external os as a frequent cause of nausea in pregnancy, stating that

dilatation of the cervix will relieve vomiting of pregnancy in certain cases.

The present paper deals with a nongravid nullipara with no history of a preceding pregnancy. The following points were of interest in her past history. She was born Dec. 9, 1908. In the fall of 1927, a leucorrheal vaginal discharge began and gradually became continuous and profuse. In February, 1928, the appendix was removed and the uterus was suspended by the Baldy-Webster method. Preceding this operation, the patient's weight had averaged 118 pounds, but it never exceeded 102 pounds following the operation.

Vomiting first began in December, 1928, when the patient vomited three to five times daily for two weeks. She had headaches during this period. Beginning again in October, 1929, the patient vomited for a month from three to five times daily. The third period of vomiting began in March, 1930, averaging from three to ten times daily till August 12, 1930. During this period her weight fell progressively from 94 to 77 pounds.

I first saw the patient on July 25, 1930. She had been treated previously for gastric ulcer, but her symptoms did not suggest this condition. Physical examination revealed little of importance excepting marked emaciation, a median operative scar below the umbilicus, and chronic endocervicitis with profuse leucorrheal discharge. The patient failed to respond to medical and dietetic treatment.

On August 21, 1930, I dilated the cervix with a Goodell dilator and cauterized its mucosa with an electrically heated wire cautery without anesthesia. Since then there has been practically no vomiting; the leucorrhea has ceased; the cervix has presented a healthy appearance, and the patient has made a steady gain in weight. She is enjoying excellent health. On Sept. 23, 1931, she weighed 117 pounds.

This paper calls attention to the importance of endocervicitis in the etiology of persistent vomiting in nongravid nulliparae. In the present case, dilatation and cauterization of the cervix evidently cured the patient.

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2. Discussion of Granger's paper: New Orleans Med. and Surg. Journal, 56: 445, 1903.

RHINOPHYMA

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Rhinophyma is a nodular growth involving the integument of the nose and often spreading to the cheek and upper lip. The mucous membrane of the nose is not affected, in contradistinction to the very rare entity, known as rhinoscleroma. In the latter condition the nodular growths begin in the vestibule of the nose and extend to the septum, tubinates, pharynx in its inward progress and to the lip and cheek in its outward progress.

Rhinophyma usually occurs in men who have been excessive users of alcohol. The process has its inception in the early stage as an acne rosacea. The pathologic findings are the same, except, that in the rhinophyma there is an e x t r e m e hypertrophy of the connective tissue and cystic degeneration of the sebaceous glands. These cysts at times suppurate and form ulcers. No other complicating pathology has been found in any of the cases reported in the literature. However, during my recent visit at the Neuman Clinic in Vienna, I had the opportunity to observe a patient with an extensive rhinophyma, which upon removal of a portion of the mass, showed it to be complicated with carcinoma. An ulcerating gumma of the cheek and a positive Wassermann were other incidental findings.

The only successful cure for rhinophyma is its surgical resection. X-ray and radium exposures are inadvisable due to the vulnerability of the nasal cartilages to these agents. J. W. Malniak[1] reported a case of rhinophyma where a subsequent plastic operation became necessary following its removal with a galvanocautery. The use of the electro-coagulating current is also contraindicated as the experience with its employment in the above cited case in Vienna has proven. One of the alar cartilages and a part of the tip were lost after removal of a small portion with this current. The hypertrophy extends to the very substance of the cartilaginous framework of the nose, and it is, therefore, extremely difficult to limit the coagulating current to the mass only. Even very firm pressure is at times not tolerated by the nasal cartilages. This was noted in a patient at the Illinois Eye and Ear Infirmary who happened to be an unrecognized hemophiliac. A septum operation had been at-

tempted on his nose and abandoned on account of the uncontrollable hemorrhage. A pressure bandage applied to the nose resulted in a sloughing of the greater alar cartilage on one side.

The hemorrhage that accompanies the resection of the growth is profuse, but, as a rule, these patients are of a plethoric type and are not much affected from this loss of blood. However, when the growth is bilateral, I found it advisable to be conservative with the operative procedure by removing one side at a time several weeks apart.

Under block anesthesia the dissection is begun at the free margin of the ala of the nose with a very sharp knife or razor. The deep dissection is done best with strabismus scissors. By exposing a part of the alar cartilage it enables the operator to judge the depth of the mass and thus avoid extirpating any portion of the cartilage with it.

To facilitate hemostasis and bandaging without undue pressure I resorted to the use of the continuous mattress suture. The dermal material formed a net over the denuded area and the ends were used to tie a gauze sponge saturated with tincture of benzoin compound. On the fourth day the bandage and sutures were removed and the excess granulation tissue cauterized with silver nitrate 25 per cent. Cauterization must be often repeated to assure an even surface for the advancing growth of skin. Complete epidermization was affected in this patient four weeks following each operation without skin grafts, although the denuded areas were each the size of a silver dollar.

In very extensive growths uninvolved skin areas can often be found between the crowded lobules of the mass. These should be conserved as skin islands to help in the healing process. Skin grafting may at times be required to hasten the healing and prevent scarring when the growth is extremely extensive.[2]

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2. Salinger, S. Rhinophyma, Arch. Otolaryng. 12-401 (Sept., 1930).

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Book Review

PRACTICAL ENDOCRINOLOGY. By Henry R. Harrower, M.D. Glendale, California, Pioneer Printing Company, Inc. 1931.

The literature on internal secretions is now so voluminous that the general practitioner, however great his interest, does not have time to familiarize himself with it in detail. The interest among the rank and file on the subject of endocrinology is so widespread that a comprehensive volume on the subject is doubly welcome. This work should meet the present demand of every practitioner.

ALLERGY AND APPLIED IMMUNOLOGY. By Warren T. Vaughn, M.D. Illustrated. St. Louis. The C. V. Mosby Company. 1931. Price $4.50.

This is intended as a hand book for physician and patient. The volume represents a comprehensive discussion, in non-technical terms wherever possible of the most recent development in the diagnosis and treatment of the allergic disease and diseases associated with allergy.

HOW'S YOUR BLOOD PRESSURE? By Clarence L. Andrews, M.D. New York. The MacMillan Company. 1931. Price $2.50.

This work is intended for victims of "Blood Pressure Psychology" who because of hearsay, misinformation, and inability to separate cause from effect live in constant fear of some impending body calamity which may never occur, so far as blood pressure is concerned.

ONYCHOLYSIS: AN INDUSTRIAL DERMATOSIS

H. J. Templeton, Oakland, Calif. (*Journal A. M. A.*, Dec. 26, 1931), reports five cases of onycholysis. The patients were new employees, apparently healthy, who developed black spots under their fingernails within forty-eight hours after beginning work washing paste from labeled bottles. Within a few days the nails loosened from the nailbeds at these areas. The process was without symptoms. The nails regrew in from four to six months. Investigations revealed no specific industrial irritants at fault. The author believes that the disorder was precipitated by maceration of the tissues by prolonged immersion in water plus, possibly, the mechanical insult to the tips of the fingernails from picking at resistant pieces of paste. But back of all this, in his opinion, was some personal factor which made the nails separate from the nailbeds more easily than would those of normal individuals.

MENINGITIS CAUSED BY FRIEDLÄNDER'S BACILLUS

According to Karl Rothschild, New Brunswick, N. J. (*Journal A. M. A.*, Dec. 26, 1931), cases of meningitis caused by Bacillus mucosus-capsulatus (Friedländer's bacillus) are usually fatal. Only three cases in which the patient recovered have been reported; in all these the diagnosis is not satisfactorily confirmed. The author presents a case in which Friedländer's meningitis was associated with a subdural abscess, following mastoiditis. The same micro-organism was found in cultures of the abscess and of the spinal fluid. By bacteriologic tests the micro-organism was identified as Bacillus mucous-capsulatus (Friedländer's bacillus),

with the characteristics of the most frequent type of this group. The patient recovered completely, representing the first case with recovery reported in the American literature and the first nonfatal case in general in which definite bacteriologic tests were made. A survey of the literature is also presented.

ACUTE SUPPURATIVE CONDITIONS OF HIP JOINT

Guy A. Caldwell, Shreveport, La. (*Journal A. M. A.*, Jan. 2, 1932), presents a summary of the treatment and end-results of eighteen acute suppurative conditions of the hip joint. A review of the end-results indicates that ankylosis or pathologic dislocation is the usual sequel when the primary site of infection is in the intra-articular bony structures, whereas an excellent functional result is the rule when the process begins in the synovial membrane. Drainage of the hip by anterior or posterior incision does not limit joint motion when there is primary synovial infection. Ankylosis usually develops in spite of drainage by incisions when the condition is primarily osteomyelitis or epiphysitis draining by way of the hip joint. Roentgenograms should be made from time to time after drainage has been established in an acutely infected hip joint in order to determine whether there is bone involvement, and if bone destruction is apparent an effort should be made to provide drainage by some other route than through the hip joint.

MASSIVE UNATTACHED RETROPERITONEAL TUMORS: AN EXPLANATION OF UNATTACHED RETROPERITONEAL TUMORS BASED ON REMNANTS OF THE EMBRYONIC UROGENITAL APPARATUS

G. H. Hansmann and J. W. Budd, Iowa City (*Journal A. M. A.*, Jan. 2, 1932), report seventeen retroperitoneal tumors which were not attached to adult urogenital organs. All the tumors were similar to tumors which arise in the adult urogenital organs. Retroperitoneal tumors collected from the literature, integrated with the material described by the authors showed that most all tumors which occur in adult urogenital organs may occur free along the course of development of the urogenital apparatus. The concept that they arise from remnants of the urogenital apparatus is the most logical explanation of their histogenesis.

SUBSEQUENT COURSE OF FORTY PATIENTS WITH ACUTE "DRY" PLEURISY

Marshall N. Fulton, Providence, R. I., and Richard G. Hahn, Boston (*Journal A. M. A.*, Dec. 26, 1931), review the records of 639 patients with pleurisy. One hundred and forty-nine of these were acceptable as instances of acute dry pleurisy. The subsequent history of forty of the latter during a period averaging seven years has been obtained by correspondence or examination. In four of the patients pulmonary tuberculosis developed, in three of them within one year after the acute pleurisy. The remaining thirty-six are in good health. The authors believe that while one should appreciate the likelihood that an acute dry pleurisy may be an early manifestation of tuberculous infection, their study suggests that pulmonary tuberculosis is apt to develop in fewer of the cases than has been taught previously.

PSEUDOPREGNANCY

Donald Macomber, Boston (*Journal A. M. A.*, Jan. 23, 1932), reports two cases in which there was evidence of decidua formation when the stimulus of an embryo was not present. In both cases menstruation was delayed and it would seem that there had been a condition of pseudopregnancy comparable to what occurs in the rabbit and ferret after sterile coitus. In one case it seemed fairly obvious that the decidua was formed as a result of the trauma of an operation. The actual determining cause in the other case is unknown. The occurrence, however, in either case offers considerable support to the theory that pseudopregnancy occurs regularly in the human female preceding menstruation.

Society Proceedings

ALEXANDER COUNTY

The Alexander County Medical Society held its annual dinner meeting and election of officers at the Halliday Hotel, Cairo, Ill., December 22, 1931. The following were elected to serve for the year 1932:

President, Dr. Flint Bondurant; vice-president, Dr. Edward Miller; secretary-treasurer, Dr. James S. Johnson; censor to serve three years, Dr. H. A. Davis; censor to serve two years, Dr. R. E. Barrows; Censor to serve one year, Dr. B. S. Hutcheson; delegate to State Society, Dr. James S. Johnson; alternate, Dr. Phil McNemer.

Seventeen members of the Society attended the dinner, which was held in the Blue Room of the Halliday Hotel, immediately following business meeting. Dr. R. E. Barrows served as Toastmaster.

James S. Johnson, Secretary.

OGLE COUNTY

The Ogle County Medical Society held its January meeting at the Collier Hotel, Rochelle, Illinois, on January 14, 1932.

Due to the severity of the weather the business of the meeting was dispensed with to allow the large number of visiting friends to leave earlier.

Dr. Chester Guy, Chicago, gave a very instructive lecture, "Common surgical mistakes as seen by the Pathologist." Some of the warnings of Dr. Guy:

1. Avoid most operations following skull fractures.
2. Close Chest wounds without drainage.
3. Do not look too long for foreign bodies.
4. Do not overlook common duct stones in gall tract operations.
5. In operations for chronic appendix—do not be satisfied with an examination of the appendix only.

6. Study carcinoma cases for metastasis. Especially examine the liver before any radical excision in any organs.

Dr. L. H. Sloan, Chicago, gave an excellent illustrated lecture on "Differential Diagnosis of Sub Sternal Pain."

The slides illustrating his cases were particularly instructive.

Followning Dr. Sloan two motion pictures were shown:

1. Hydrocele.
2. Anatomy of the Abdominal wall.

The meeting adjourned to be called again at the order of the President.

A. R. Bogur, M. D., Secretary.

STEPHENSON COUNTY

At the annual meeting of the Stephenson County Medical Society held at noon today at the Hotel Freeport, officers for the ensuing year were elected, and Dr. H. J. Stickle, Freeport, was chosen to lead the organization for 1932.

Dr. W. P. Peck, Freeport, was elected vice-president, and Dr. K. B. Rieger, Freeport, was re-elected to the office as secretary and treasurer. Dr. C. L. Best, Freeport, and Dr. L. M. Thompson, Lena, were named as members of the board of censors. Dr. C. J. Leavy, retiring president, was named as delegate to the state convention to be held at Springfield, in June, with Dr. E. A. Diestelmeier, chosen as alternate.

Dr. Stickle, who resides at 1043 West Lincoln boulevard, has been practicing for the past eleven years, having come to Freeport following the termination of his course in a medical school. He graduated from Hahneman Medical College at Chicago, finishing his internship at Boston, and completing his course in surgery in that city.

Resolutions of condolence were adopted for Rr. G. M. Henbest, recently deceased, and will be forwarded to his widow, expressing the deep regret of the members of the society at his passing.

The following resolution was presented at the meeting of the society extending sympathy to Dr. Karl F. Snyder:

"Whereas, A beloved member of this society, Dr. Karl F. Snyder, has sustained serious and painful injuries resulting from an automobile accident.

"Be It Resolved, That we as members of the society extend to him our deepest sympathy and trust that his illness may be of brief duration followed by a complete recovery.

"Be It Further Resolved, That the contents of this resolution be recorded in the minutes of this meeting and a copy of same sent to Dr. Snyder.

"(Signed)

"W. B. Peck,
"W. L. Karcher,
"J. Sheldon Clark,
"C. L. Best,
"C. J. Leavy."

Marriages

Nicholas Dykstra, Jr., Chicago, to Miss Ilma Takola of Hibbing, Minn., Oct. 20, 1931.

Oliver E. Ehrhardt, Springfield, Ill., to Miss Helen Stout of Brinkley, Tenn., January 7.

Jack D. Kirshbaum, Chicago, to Miss Florence Leon Rosen of Montreal, Que., Canada, Dec. 27, 1931.

Victor Levine, Chicago, to Miss Wilhelmena A. Warner of Summitville, Ind., Dec. 18, 1931.

John C. Vermeren, Chicago, to Miss Rose Margaret Gill of Sun Prairie, Wis., Oct. 28, 1931.

Harry C. Hill to Mrs. Angela Lewis, both of Streator, Ill., Dec. 30, 1931.

Personals

Dr. Charles E. Humiston, Chicago, addressed the Elgin Physicians' Club and the Elgin Kiwanis Club, January 26, on "Science and Superstition."

The La Salle County Medical Society was addressed, January 7, by Drs. Archibald L. Hoyne and Emil D. W. Hauser, Chicago, on poliomyelitis and low back pain, respectively.

Dr. Maximilian Kern, Chicago, addressed the Rock Island County Medical Society, January 12, on "Non-surgical Types of Goiter."

Dr. Marion L. Klinefelter, St. Louis, addressed the Madison County Medical Society, January 8, on fractures.

Dr. William L. Benedict, Rochester, Minn., talked on "Orbital Tumors" before the Chicago Ophthalmological Society, January 18.

The Chicago Gynecological Society was addressed, January 15, by Drs. Maurice A. Schnitker, Paul C. Hodges and Frank E. Whitacre on "X-Ray Evidence of Fetal Death."

The Chicago Neurological Society was addressed, January 21, among others, by Dr. Eric Oldberg on "Indications for Chordotomy."

At the January 5 meeting the Peoria City Medical Society, Drs. Wilber E. Post and William A. Hoffman, Chicago, discussed the newer phases in studies of nephritis.

Major Lamphear W. Webb, Jr., Chicago, presented "Medical Aspects of Chemical Warfare and Demonstration of Gas Apparatus" before the Peoria City Medical Society, January 12.

At the meeting of the Morgan County Medical

Society, January 14, Drs. George L. Drennan spoke on "Reasons for Pelvic Measurements" and David W. Reid, "A Summary of Thirty Years' Obstetrical Work in Jacksonville."

Dr. William W. Duke, Kansas City, Mo., held a diagnostic clinic for cases of allergy before the McLean Medical Society, January 12, and spoke on "The Dawn of a New Specialty in Medicine."

At a joint meeting of the Fulton, Schuyler and McDonough county medical societies, January 28, Dr. Walter H. Nadler, Chicago, spoke on diabetes.

Dr. Hugo R. Rony, Chicago, addressed a joint meeting of the Will-Grundy County Medical Society and the woman's auxiliary in Joliet, January 13, on "Obesity and Leanness."

Dr. Grandison D. Royston, St. Louis, addressed the St. Clair County Medical Society, January 7, on "Use and Abuse of Anesthetics and Pituitrin in Pregnancy."

Dr. Paul L. Schroeder, among others, spoke on "The Work of the Division of the Criminologist and the Institute for Juvenile Research," January 14, before the Chicago Academy of Criminology.

The Chicago Council of Medical Women was addressed, January 8, by Dr. Carroll C. L. Birch on "Hemophilia"; Rosalie M. Parr, "A Discussion of Rare Element Salts as Erythropoietic Agents," and Dr. Evelina W. Ehrmann, "Anemia Neonatorum."

Dr. George J. Rukstinat, among others, addressed the Chicago Pathological Society, January 11, on "Hemorrhage into the Stroma of Both Ovaries—A Sequel of Mitral Stenosis"; Dr. Hamilton R. and Dora Fishback spoke on "Phosphorus Partition in Experimental Degeneration of Striated Muscle."

At the meeting of the Chicago Orthopedic Club, January 8, Drs. Joseph Miller and Edward L. Compere spoke on "Classification of Chronic Arthritis Based on Etiology and Pathology" and "Bone Cyst and Giant Cell Tumor—Their Relation to Infection," respectively.

Among others, Drs. Dallas B. Phemister and Lois Day addressed the Chicago Surgical Society, January 8, on "Calcium Carbonate Gallstones," and Dr. Carl A. Hedblom, "Obliteration of Large Chronic Empyema Cavities by Combined Conservative and Radical Measures."

At the meeting of the Chicago Society of Allergy, January 18, the speakers were Drs. Meyer R. Lichtenstein on "Potency of Ragweed Extracts"; Leon Unger, "Perennial vs. Preseasonal Hay Fever Treatment," and Samuel M. Feinberg, "A Scheme for Evaluation of Hay Fever Results."

The Society of Medical History of Chicago was addressed, January 14, by Drs. Lloyd L. Arnold on "Pettenkofer"; Milton G. Bohrod, Decatur, Ill., and William F. Petersen, "Medical Notes on the Arthacastra of Kautilya." Dr. Bohrod also spok on "Genealogy of Medical Thought," and Dr. Petersen on "Count Struensee."

News Notes

—Dr. Edward J. Stieglitz, Chicago, addressed the Will-Grundy County Medical Society, January 20, on "Certain Aspects of Arterial Hypertension." Dr. Géza de Takats, Chicago, addressed the society recently on "The Value of Ambulatory Vein Ligations in the Treatment of Varicose Veins."

—The Chicago Society of Internal Medicine was addressed, January 25, by Drs. Willard O. Thompson on "Cerebrospinal Fluid in Myxedema and in Exophthalmic Goiter"; Edmund Andrews, "Chemical Mechanism of Gallstone Formation," and William S. Boikan, "Myocarditis Perniciosa."

—Philip B. Hadley, Ph.D., associate professor of bacteriology, University of Michigan Medical School, Ann Arbor, will give the eighth Ludvig Hektoen lecture of the Frank Billings Foundation at the City Club, March 25, on "New Trends in Medical Bacteriology and Immunology."

—The Chicago Urological Society was addressed, January 27, by Drs. Irvin S. Koll on "Symptomatic Nephroptosis Requiring Surgical Treatment"; Budd C. Corbus, "Newer Ideas in Immunology," and Charles M. McKenna and Eric Oldberg, "Bilateral Chordotomy for Relief of Pain in Carcinoma of the Bladder."

—"Therapeutics in Private Sanatoria for Mental Cases" was the general topic for discussion at the meeting of the Illinois Society for Mental Hygiene, Chicago, January 29; the speakers were Drs. John M. Grimes, Chicago, Albert H. Dollear, Jacksonville, Henry J. Gahagan, Chicago, James M. Robbins, Kenilworth, and Greorge W. Mitchell, Peoria.

—At the first quarterly meeting of the Illinois Radiological Society in Bloomington, January 24, Drs. Edward L. Jenkinson spoke on "X-Ray Treatment of Thyroid Disease"; Robert A. Arens, "Primary Gallbladder Films Versus Cholecystography," and Isador S. Trostler, Chicago, "Historical Data Regarding the Roentgen Rays."

—At a joint meeting of the Chicago Roentgen Society and the Chicago Society of Industrial Medicine and Surgery, January 13, the speakers were Drs. Samuel C. Plummer on "Fractures of the Spine"; Paul G. Dick, "Anomalies of the Spine," and Maximilian J. Hubeny, "Hypertrophic Spondylitis Accompanied by Radiculitis."

—A symposium on vivisection was held, January 21, under the auspices of the public health and legislative committees of the Chicago Woman's Aid; the speakers and their subjects were Drs. Margaret M. H. Kunde, "The War Against Human Pain and Suffering"; Andrew C. Ivy, "Biological Explorations in the Land of Life," and Morris Fishbein, "The Anti-Type of Mind."

—Dr. Nathaniel Allison has resigned as professor of orthopedic surgery in the department of surgery at the University of Chicago, on account of ill health. Dr. Allison, since his arrival at the university in April, 1930, has organized the division of orthopedic surgery. He has been appointed a nonresident professor and consulting surgeon in the department.

—A tumor clinic has been organized at the University of Chicago to afford a close cooperation between the departments of surgery and gynecology and the division of roentgenology, in the treatment of neoplastic disease and such other cases as require radiation therapy, exclusive of all dermatologic conditions. It consists of two divisions, surgical and gynecologic. The services of the tumor clinic are optional to staff members of the University of Chicago Clinics. Its organization is not intended to curtail the activities of any physician in the treatment of cancer. No patient will be admitted directly to the tumor clinic from the admitting office unless referred expressly to it by an outside physician. One of the principal functions of the clinic will be the follow up of all cases.

—Heads of National Fraternities desiring to have meetings in Springfield during the annual meeting of Illinois State Medical Society are requested to notify Dr. C. B. Stuart, Ridgely Farmers Bank Building, Chairman of Fraternity and Alumni Commitee, that arrangements may be made for the meetings.

—A special meeting of the Chicago Laryngological and Otological Society and the Chicago Tuberculosis Society, preceded by a dinner in honor of Doctor Chevalier Jackson, was held at La Salle hotel, January 4. The following program was given:

Call to Order—Howard Ballenger.

Greetings from the Chicago Medical Society—John Harger.

An Appreciation of the Work of Chevalier Jackson

In Diseases of Lungs—Ethan Allen Gray.

In Peroral Endoscopy—Joseph C. Beck.

In Medical Literature with the Brush and Pen—Morris Fishbein.

As a Fellow of the American Medical Association—Edward H. Cary (Dallas).

As a Doctor of Medicine—Frank Billings.

Suppurative Disease of the Lung Following Operations Involving the Upper Air Passages—Chevalier Jackson.

Discussion—Carl Hedblom and Edwin McGinnis.

—On Thursday, March 3, Sangamon County Medical Society will hold an all day Clinic with the following program:

8-9 A. M.—Veneral Disease Clinic.

9-12 A. M.—Surgical Clinic.

Noon—Luncheon at St. John's Hospital.

1-3 P. M.—Ward Walks.

3-6 P. M.—Medical Clinics.

6 P. M.—Dinner at Leland Hotel.

8 P. M.—An outside speaker.

Clinics and Ward Walks will be at St. John's Hospital, Springfield, and will be conducted by their own clinicians.

—Dr. Otto L. Schmidt addressed the Medical History Club of the University of Illinois College of Medicine on January 6—subject—"The Place of Medical Museums in Medical Education."

—On February 17, Dr. E. P. Lyon, Dean of the Medical School of the University of Minnesota, will address the Club on "The Relation of the Professional Nurse to Medical Practice."

Deaths

Anson T. Abell, Mattoon, Ill.; Hospital College of Medicine, Louisville, 1895; a member of Coles-Cumberland Medical Society for 13 years; aged 74; died, January 9, of arteriosclerosis.

Frank Pierce Beck, Oakland, Ill.; University of Illinois College of Medicine, 1901; a member of Coles-Cumberland Medical Society since 1906; aged 62; died, January 21.

Axel Ferdinand Benson, Chicago; University of Illinois College of Medicine, 1910; a member of Illinois State Medical Society; aged 58; died, January 2, of chronic nephritis.

Fred Harrison Brines, Albion, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1911; past president of the Hamilton County Medical Society; aged 51; died, December 9, 1931, of pulmonary tuberculosis.

Peter Christian Clemensen, Chicago; Northwestern University Medical School, Chicago, 1902; a Fellow, A. M. A.; formerly member of the school board; aged 58; on the staff of the Woodlawn Hospital, where he died, January 5, of nephritis and urinary sepsis.

James E. Cowan, Galesburg, Ill.; Rush Medical College, Chicago, 1874; aged 82; died, Nov. 10, 1931, in the Galesburg Cottage Hospital.

Dudley Watson Day, Rockford, Ill.; Rush Medical College, 1907; on staff of Rockford Hospital and chief of staff of Rockford Children's Home for several years; head of department of hygiene and health of the public schools 1910-1921; member of Illinois State Medical Society several years; aged 49, died, January 15, of myocarditis.

John J. Driscoll, Chicago; Rush Medical College, Chicago, 1891; member of the Illinois State Medical Society; aged 73; died, January 5, of cerebral hemorrhage and arteriosclerosis.

William Henry Evans, Murphysboro, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1914; a Fellow, A. M. A.; aged 43; died, December 28, 1931, of diabetes mellitus and nephritis.

William Ellis Fawcett, Bushnell, Ill.; Western Pennsylvania Medical College, Pittsburgh, 1898; a Fellow, A. M. A.; member of the Michigan State Medical Society; medical director and superintendent of the Elmgrove Sanitarium; formerly superintendent of the Pureair (Wis.) Sanatorium; aged 55; died, December 12, 1931.

Thomas Lewis Gilmer, Chicago; Quincy (Ill.) College of Medicine, 1885; a Fellow, A. M. A.; emeritus dean and professor of oral surgery, Northwestern University Dental School; member of the American College of Surgeons; oral surgeon to St. Luke's Hospital; aged 82; died, December 28, 1931, in St. Vincent's Hospital, Los Angeles, of cerebral hemorrhage.

Frederick Hasse, Chicago; Bennett College of Eclectic Medicine and Surgeon, Chicago, 1883; aged 87; died, December 29, 1931, in the German Deaconess Hospital, of myocarditis, following an operation for carcinoma of the prostate.

George Murray Henbest, Freeport, Ill.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1901; a Fellow, A. M. A.; aged 63; died, December 1, 1931, of carcinoma of the bladder.

Fred Drury Hollenbeck, Chicago; Rush Medical College, Chicago, 1895; a Fellow, A. M. A.; on the staff of the American Hospital; aged 68; died, September 25, of myocarditis.

Daniel J. MacIsaac, Chicago; Chicago Medical College, 1920; aged 42; died, January 1, at St. Luke's Hospital, from injuries due to being struck by an automobile.

Francis Marion McNair, Sugar Grove, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1893; served during the World War; aged 64; died, December 11, 1931, in the Edward Hines, Jr., Hospital, Hines, of heart disease.

Arthur Laurence Muren, Belleville, Ill.; National University of Arts and Sciences Medical Department, St. Louis, 1924; member of the Illinois Medical Society; served during the World War; aged 42; died, December 26, 1931, of a self-inflicted bullet wound.

Emmanuel Cross Nolan, Mt. Pulaski, Ill.; Rush Medical College, 1878; retired several years on account of poor health; aged 78; died, January 10.

Mary Eugenie Pogue, Wheaton, Ill.; Hahnemann Medical College and Hospital, Chicago, 1900; a Fellow, A. M. A.; member of the American Psychiatric Association and the Central Neuropsychiatric Association; medical superintendent and owner of the Mary E. Pogue School and Sanitarium; aged 61; died, January 3, in the Passavant Hospital, Chicago, of coronary thrombosis.

Freman J. Scott, Rock Falls, Ill.; Hahnemann Medical College and Hospital, 1888; health officer of Rock Falls; aged 71; died, January 5, of myocarditis.

John W. Scott, Springfield, Ill.; Northwestern University Medical School, 1876; a former secretary of Illinois State Board of Health, active in politics and fraternal organizations; aged 76; died, December 12.

Celdo Benno Semerak, Chicago; Rush Medical College, Chicago, 1916; a Fellow, A. M. A.; instructor of pathology at his alma mater; aged 56; died, December 15, 1931, of pneumonia.

Robert Franklin Stephens, Toledo, Ill.; Hospital College of Medicine, Louisville, Ky., 1897; aged 64; died, December 16, 1931, of acute dilatation of the heart and pulmonary edema.

George H. Weber, Peoria, Ill.; Louisville (Ky.) Medical College, 1900; a Fellow, A. M. A.; past president of the Peoria County Medical Society; on the staffs of the Methodist Hospital, St. Francis' Hospital and the Proctor Hospital; aged 55; died, December 31, 1931, of angina pectoris.

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EIGHTY-SECOND ANNUAL MEETING AT SPRINGFIELD, MAY 17, 18, 19, 1932

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Editorials

TAKE CARE OF OUR WAR VETERANS IN LOCAL CIVILIAN HOSPITALS. IT WILL BE BETTER FOR THE VETERAN HIMSELF — BETTER FOR THE TAX PAYER — IT WILL HELP PREVENT A BUREAUCRACY THAT KNOWS NO MASTER

Drastic disparagement should greet the government's plan for building hospitals in which to care for our disabled veterans. This is only another development of the already staggering bureaucratic plant, and will not give these poor men as competent care as is now available.

The number of efficient, splendidly run hospitals located throughout the United States is more than ample to care for our veterans and to care for them in a far better fashion than any the government can devise. There is not a single instance on record of government management of any industry or economic unit that has been perfected in private hands, that fails to show anything else but waste and inefficiency, often an irremediable impairment. What happened to the railroads under government control is still an industrial havoc that calls for tears.

In ninety-nine per cent. of the cases of disabled veterans the men would be far better off if cared for in the local hospital of their home towns where separation from relatives and friends would not be an added item to an already brimming over Book of Job.

Apart from the less satisfactory results from a psychological as well as a physiological standpoint, the erection of these huge governmental lazar-houses would install and establish firmly a bureaucracy and a system of overcentralization unparalleled in the history of medical care for the sick.

Further, and in these days of crisis when the whole world sits bankrupt wondering how and with what to meet its obligations, this program will call for even more throwing of money out

of the window. Were there a lack of hospital facilities for accurate comfortable scientific care of our veterans the question would be different. The disabled veterans deserve more than the world can ever pay. They merit the best of hospitalization. This they stand a poor chance of having if this bureaucratic, unscientific, costly, wasteful, unnecessary scheme goes through.

In the present system of civilian hospitals facilities are ample. Better care can be received nowhere on earth. To keep our veterans in these existing, smoothly and capably functioning hospitals is the indicated procedure. In every way it is better for the three elements most vitally concerned. It is better for the veteran himself; it is better for the taxpayer and in its stride away from the trend towards over-centralization it is far better for the nation. After all, we were founded and we have existed as a republic.

Now the amendment of the Veterans Act by the last Congress entitles to hospitalization men with non-service-connected disabilities, which of course, means that many more hospital beds must be provided to care for these men, probably about 130,000 at a cost of about $3,500 each. Now, when the A. M. A. met in June, 1931, the House of Delegates adopted a resolution proposed by Dr. H. H. Shoulders of Tennessee advising against the government's further construction of hospitals, and recommending that sick and disabled veterans be treated in local hospitals.

The adoption included an amendment for the appointment of a committee to study this problem. Its personnel includes representatives of the A. M. A., the American Legion and the American Hospital Association. It has consulted with the American Legion Rehabilitation Committee, the Medical Advisory Counsel of the Veterans Bureau and the U. S. House of Representatives Committee on World War Veteran Legislation. Though the American Legion was in favor of further hospital construction, the majority of the committee voted to use local hospitals if standardized. While the cost per day per patient in the local hospital is practically the same expense as in a government institution—i. e., about $4.00,—this item of expense in the government budget does not cover the cost of hospital construction and equipment that will run about $3,500 per bed, exclusive of interest on the bonds or about another $100 per bed per year and all this on construction of what would really be only temporary and unnecessary emergency buildings, THAT WILL BE CAST INTO THE DISCARD, UNUSED AND OBSOLETE IN ABOUT TWENTY YEARS, WITH A DEAD LOSS OF MILLIONS OF DOLLARS IN TAXES THAT NOT ONE TAXPAYER IN THE COUNTRY CAN AFFORD TO YIELD UP FOR SUCH A WANTON WASTEFUL PROJECT.

Unless the government could afford—and the folly of this is prima facie—to build a veterans' hospital in every town—there will always be the elemental obstacle of transportation to be combated.

Without knowledge of the A. M. A. plan two Congressmen in Southern States far distant from veterans' hospitals introduced bills for use of local hospitals. These men—McClintic of Oklahoma and Rankin of Mississippi—both stated that their bills resulted from requests from veterans themselves.

It has been estimated that 130,000 beds will be needed. Yet for the efficient care of the veterans there are already available in standardized and efficient hospitals almost 319,000 empty beds!

Use of local hospitals affords among other advantages to the man 1. choice of his own physician; 2. immediate treatment; 3. conservation of resources to the government, which after all is the individual citizen, an unfortunate mortal trying now to pay for an already backbreaking bureaucracy that nobody wants and that nobody needs.

After all, in a democracy the government is—or should be—the people. And the "Government," high and mighty though the title may sound, has no other money to call its own except that which you and I and the man across the street can lay our hands upon.

The fifty-three veterans' hospitals now in existence have only about 26,000 beds. But with the 319,000 empty and available beds now in civilian hospitals even the estimated 130,000 more beds needed for veterans will still leave a surplus of about 180,000 in case veteran disability increases by leaps and bounds.

And, in case the civilian hospital accommodations are rejected where will this "government" of you and me, and the man next door,

already facing a national deficit in the billions that we cannot pay, how and where will we get the $300,000,000 to build and the $200,000,000 or $300,000,000 per annum necessary to maintain them? And if we do borrow a little more where no borrowing is to be done what are we going to do? To keep on extending the Veterans' Bureau with indiscriminate free medical care, or by and by when another sort of whim seizes a few politicians, set about junking these expensive institutions that may or may not be paid for?

It has been aptly written by the A. M. A.:

"The psychology of the situation is again simple. A bureau once established begins to expand, to grow and to forestall dissolution. The Veterans' Bureau, if it wishes to continue as a thriving and growing organization, naturally will support plans for extending its hospital facilities and its personnel.

"There are many reasons why the people of the United States and the medical profession must oppose unreasoning expansion of the Veterans' Bureau and why they should consider alternative plans such as that providing cash benefits to disabled veterans. These reasons are so logical and so inherently sound that they must appeal to every thinking person. The continued building of veterans' hospitals and the enlargement of the Veterans' Bureau constitute an insiduous approach to state medicine. The actual needs of veterans will gradually be exceeded by the medical provisions available. Then socialistically and communistically minded demagogues will demand that the state administer care to all individuals as it has attempted to care for veterans. Such a procedure would strike at the fundamental principles of the democracy under which we live and for which our veterans fought. It would impair greatly the progress of medical science; it would destroy interest in medicine as a career. It would lead to the poor type of medical service given to people under similar systems abroad.

"The veteran today must go to a veterans' hospital selected for him by the Veterans' Bureau even though it is some distance from his home. Thus he is removed from his family to become a ward of the state. Government employes, whose primary allegiance must be to the government which employs them rather than to the veteran who is served, examine and diagnose his case. Free choice of physician and responsibility to the patient rather than to any other employer is so fundamental in first rate medical practice that it has been recognized even by governments that are experimenting with state medical care. Government bureaus do not provide for this type of practice.

"It has been suggested that a plan that would insure care for the disabilities of veterans by payment to the veteran of a regular cash benefit during the period of his disability would easily permit free choice of physician and hospitalization at home,—really greater benefits,—and yet far less costly than any other system. Insurance actuaries estimate that cash benefits of this nature could not amount to more than $80,000,000 a year. So even with the cost of administration, control and payment for hospitalization, the total cost would hardly exceed $100,000,000 the first year, and would diminish gradually as veterans grew older. There would be no depreciation, either, of a costly plant.

"Many leaders of the American Legion see the wisdom of this plan. Many individual posts have gone on record as favoring the system of cash benefits. American soldiers fought and served, inspired by the ideal of maintaining the great American democracy. Our system of government gives the individual free choice of his method of life; it gives him a voice in selecting his government and the laws by which he will be governed. The present plan of hospitalization for the disabled and the possible extension of this hospitalization to the care of all veterans, to the families of veterans and, indeed, to other persons in the government service is a threat at the very foundation of our government and a triumph for socialistic and communistic leaders.

"The resolution adopted by the House of Delegates deserves the support of the entire medical profession whether in or out of the American Legion. Those members who are also members of the American Legion may help both the veterans and the profession by their help in disseminating a proper understanding of the situation. Those who have allowed their membership in the American Legion to lapse and those who did not join the American Legion may well interest themselves in the veterans' organization for the

same reason," declares the Journal of the A. M. A.

"Records of the Veterans' Administration show that the government was providing hospitalization for 39,623 ex-service men on July 31, as compared with 30,677 on July 31, 1930, an increase of 8,946, or about 30 per cent. Nearly half of the number receiving care are psychiatric patients, about one fifth are tuberculosis and the remainder suffer from a variety of general diseases. On July 31, 1931, there were 3,166 unoccupied beds in all government hospitals as against 2,530 in 1930. Of veterans awaiting hospitalization there were this year 90 with service-connected disabilities and 3,426 with non-service-connected conditions. According to the veterans' administrator, the primary factors determining the number carried on the waiting list are turnover in applications and personal reasons. Delay for personal reasons is primarily due to the fact that hospitalization for minor conditions has been authorized, and veterans may set a date after which they will accept hospitalization. Emergency cases are not carried on the waiting list, it was stated, as hospitalization is authorized in these cases without regard to the type of disability," says an authority.

A resolution opposing continuance or enlargement of the present legislative program of the federal government in the construction of veterans' hospitals was sent to members of Congress by the American Protestant Hospital Association through its secretary, Frank C. English, D. D., Cincinnati. The protest points out that many general hospitals are burdened financially and need all local revenue. The association feels, therefore, that the plan to send veterans to distant cities and pay for their care, while their families are frequently thrown on local hospitals as charity patients, works a hardship on such hospitals, especially when half of their beds are often vacant. The trustees of the association believe that the government should provide hospitals for the permanently disabled and the tuberculous, cancerous and mental patients, but should consider carefully the question of having those who are temporarily sick and injured treated in civilian hospitals as more economical. It is believed that this can be done at a cost to the government less than what it costs to build and operate veterans' hospitals.

To state the facts bluntly, the Veteran Hospital plan bids fair to be the precursor of so-called "state medicine," a system repugnant to all right thinking Americans, whether physicians or laymen. The government now with 40,000 beds available for veterans, proposes to build additional hospitals providing for 130,000 more beds, at the cost of $300,000,000, despite the fact that at the present time there are approximately 319,000 empty beds in the 8,000 civilian hospitals. For the government to persist in planning new beds while there is already an oversupply on hand is a tragedy and a crime against the already overburdened tax payer, who pays and pays. Let it be repeated the proposed veterans' hospital building plan is both an unnecessary burden on the tax payer and a crime against the medical profession. With government hospital plants totaling 150,000 beds without doubt there will be built up a more or less political personnel whose sole interest will be to hold onto their jobs by keeping all these beds filled. When the veterans are all dead whom will these bureaucrats bring in to fill these 150,000 beds? Will the Government donate these hospitals for civilian use? Not if the job holders can help it! Rather, by their plan one after another of various groups of the civilian population will be granted hospitalization in government hospitals, at government expense, will be treated by government doctors working on salary, and will be withdrawn from the possible clientele of the already harassed private physician; the whole scheme will build up a bureaucracy that knows no master. And the expense will be paid by more taxes—if the taxpayers hold out.

To head off this campaign requires education of both the profession and of the public. Both should be shown the dire results of such an uneconomic scheme. The veterans themselves should be brought to realize that a vastly better service is available to them in civilian hospitals. In many cases, in fact, a better service can be rendered them in the civilian hospitals in their home towns. A campaign of enlightment should go out to the veterans, to their friends and to the tax-paying public. We should get in touch with our representatives in Washington who should be made familiar with the true situation in the interest of the taxpayer, the welfare of the veterans themselves, and if the truth be confessed in the very survival of democracy itself.

THE ANNUAL MEETING

Plans for the 1932 Annual Meeting of the Illinois State Medical Society, to be held in Springfield May 17, 18, 19, 1932, are well under way, and the prospects for a successful meeting are very encouraging. The Sangamon County Medical Society, the Host Society, is doing everything possible along the line of preliminary arrangements, to make this meeting one to be long remembered.

Each of the five Scientific Sections of the Society is arranging an attractive program for their respective sections. The Annual Secretaries' Conference will be held at 10:00 A. M., Tuesday, May 17, and the officers of the conference are arranging a program that will be of interest to not only the officers of component societies, but also to the membership as a whole. This important session should have a better attendance this year than ever before.

At noon on the first day of the meeting a big luncheon meeting is being arranged, to be attended by members of the Society and members of the American Legion. Dr. H. H. Shoulders, of Nashville, Tennessee, author of the "Shoulders' Resolution," Col. Hugh Scott, Superintendent of Hines Hospital, and Mr. Edward A. Hayes, of Decatur, will be the speakers at this interesting luncheon meeting. This meeting should be well attended by both physicians and Legionnaires.

On Tuesday afternoon, beginning at 1:00 o'clock, the Sections on Medicine, Surgery, Public Health and Hygiene, and Radiology will have a joint session with guest speakers on the entire program. Each will speak on some subject pertaining to their specialty, of general interest to all practitioners.

The general opening meeting of the Society will be held on Tuesday evening, May 17, and the principal speaker will be Dr. Edward H. Cary, of Dallas, President of the American Medical Association. Dr. Cary will give an address of interest to the medical profession and also to the laity, as the meeting is open to the public.

The President's Dinner will be held on Wednesday evening and this will be one of the important functions held during the annual meeting. It is hoped that every member present will attend the President's Dinner.

The House of Delegates will meet on Tuesday afternoon at 3:00 o'clock and on Thursday morning at 8:30. Every component society should elect delegates who will attend these sessions, and should ask the delegates to give a report to their respective societies, after the annual meeting. The House of Delegates is the legislative body of the Illinois State Medical Society and every component society, regardless of its membership, is entitled to representation and should insist that its delegates actually participate in the deliberations of the House at each session.

Springfield, geographically, is the ideal place for an annual meeting, and is easily reached from all parts of the state. Adequate hotel service for all is insured and for the first time in several years every section will meet in the same building. The commercial and scientific exhibits will also be shown in this same building and from present indications they will be well worth the time of everyone at the meeting to give them a most careful consideration.

The annual meeting is the members' own meeting and every member of the Society should begin to plan for the big event.

VETERANS' SERVICE COMMITTEE CONFERENCE AT STATE MEETING

On the first day of the Annual Meeting, Tuesday, May 17, there will be a luncheon at the Abraham Lincoln Hotel at 12:00 noon for physicians who served in the O. N. or M. C.

This meeting will be addressed by Dr. H. H. Shoulders of Tennessee, Col. Hugh Scott, Manager of Hines Hospital, and Edward Hayes, Past State commander of the American Legion.

It is hoped that special attention will be given to attending this luncheon by all representatives of the component societies on this committee which was formerly known as the Contact Committee with the American Legion.

There will be no more important meeting at Springfield than this one considering veterans' welfare and its relation to organized medicine.

Thomas P. Foley, Chairman.
John S. Nagel.
Charles C. Center.
G. Norbury.
T. B. Williamson.

THINKING MINDS STAND APPALLED AS TO THE DANGERS OF BUREAUCRATIC CONTROL AND GOVERNMENT DICTATION NOT ONLY TO THE PRACTICE OF MEDICINE BUT AS TO THE STABILITY OF THE ENTIRE GENERAL ECONOMIC SYSTEM

For years we have been warning against bureaucratic control and government dictation of the practice of medicine.

For years, too, we have prophesied that once medicine was thus devitalized and desecrated that the same malignity would direct itself towards other professions and towards trades and commerce.

This prognostication is now justified. Throughout the nation, thinking minds stand appalled,—now that awakening is here,—as to the dangers of this bureaucratic control, and government dictation not only as to the future of medicine but where the stability of the entire general economic system is concerned.

Insidious as was the beginning of this deluge of statutes for statutes' sake there is no longer any subtlety in the manner in which meaningless, unnecessary, hampering, un-American laws are saddled on the backs and thrust down the throats of a sadly beridden nation.

In the wake of this stifling almost impenetrable blanket of over-legislation trails an equally murderous burden of taxation. The entire machinery of this super-legislation spells woe, waste and weighty burdens.

Civilization is being outlawed into an outlaw. No human system of economics and no human wage earner can stand the burden. All the lessons history teaches of the fall and overthrow of governments through unjust taxation and burdensome laws are being cast into the discard by the moronic trend for the pitiless despotism of a bureaucracy. Washington has run wild on the subject of paternalism. Instead of a country of self-respecting achievement we are on the way, —if we survive at all,—to becoming nothing but a huge soup kitchen and a mockery both to the two greatest of human documents—the Declaration of Independence and the Constitution of the United States.

Canny indeed were those conspirators who hit upon the bludgeoning scheme of making the medical profession the cat's-paw for the infantile beginnings of this bureaucratic regime.

Again we must call attention to the fact that because United States citizens have too many laws it follows there is too little respect for any law. Daily this situation grows worse.

From standard democracy to democracy standardized is the country's drift. Today's American finds himself hedged about by more prohibitions than were Europeans under pre-war monarchies, and carrying a heavier levy of useless taxation.

A halt must be called to socialistic legislative tendencies, and monarchical taxation for bureaucratic support. Bureaucratic government with over-centralization at Washington is in process of installation. In the United States of America the republic is being ousted by a progressive bureaucracy. This burden of decadent and dying Europe, from which the founding patriots fled, is being shifted, through the leverage of paternalistic legislation at a high tax rate, upon a trusting and hitherto free people. Statute books of the land betray and defy the Constitution of the United States. A mass of expensive, interfering, useless laws make personal acts of daily life a question for public legislation and at a cost almost beyond reckoning. Through fatuous law-making the crime against liberty and the constitution is committed continually. From the lawmakers restitution must come. That United States citizen who can find for the country the trail away from this menacing, multitudinous bureaucracy and its taxes will be the Abraham Lincoln of the Twentieth Century.

Paternalistic control has extended into the farthest walks of daily life, educational, commercial and professional. Statistics and comments made by men and commissions, widely diverse in every other economic viewpoint, agree upon this menace.

Setting aside the overwhelming taxes that are unsurpassed in national history, and of which the greater portion is being expended in paying salaries to government employes for enforcing handicapping legislation, it is alarming and educative to note that:

1. Even so far back as 1923 the National Budget Committee set forth the facts that:

(a) "During the past year Congress and the forty-eight State Legislatures enacted 4,000 new bills. Also more than 200,000 new laws and ordinances were written on the statute books in

the various political subdivisions of the United States, making a grand total of more than 2,000,000 laws and regulations. To record the interpretation of these laws by courts of last resort, there is an annual requirement of 650 large volumes. This figure does not take into account the much larger number of volumes required for the rulings of court of intermediary and lower jurisdiction.

(b) "If it were possible for a man to read one new law each minute—for instance, one like the federal income tax law—and if a man spent eight hours each day at his task, including Sundays and holidays, the end of the year would find about 25,000 laws as yet unread.

This condition of continuous embargo, of universal prohibition takes us out of our proud estate of democracy and self-respect and makes us a servile people. Nowhere in history is it of record that a free people ever before renounced voluntarily that liberty for which its heroes had died to become serfs of a legislative machine, and pawns of this lawmaking robot that produces laws because it cannot do anything else. These laws that cost the taxpayer so much to be produced cannot be enforced because hundreds of thousands of them are not even known. Their only public contact is the tax that supports them. The cost of *government* has become unbearable through this legislative robot, its production and its productions. Far too many functions of local and of state governments are controlled by hidden bureaus in Washington. Far more power is exercised in these marble sarcophagi by unknown experts, *politically controlled appointees of whispering propaganda, than by the courts themselves.* And thus evil grows like weeds of the jungle.

(c) With many vociferous factions which exist in our midst there is a settled conviction that:

1. All evils yield to legislation;

2. That legislation works automatically.

(d) Expenditures arising out of wars causes enormous waste in officialism, due to persistent growth of bureaucratic control; increase of the personnel of departments, and of commissions and of boards, and of bureaus, and of every other agency ever used or abused by a pternalistic regime. With the "war job" politician the war is still being waged because his job depends on it, and a new war is in the making.

(e) In the United States the cost of government has become unbearable. The situation parallels pre-revolution France. Already we see "handwriting on the wall."

(f) Continuation of existing circumstances is leading to conditions similar to those that brought about the French Revolution.

(g) The Federal Government tried to regulate everything from the setting of a hen to the running of a railroad. A few years ago you could milk a cow without a federal inspector at your heels. The cost of this regulation has arisen from $232,000,000 in 1916 to $1,115,000,000 in 1922.

Though the ratio has increased instead of diminishing.

2. The National Industrial Conference Board stated Sept. 30, 1923, that:

(a) One person out of every twelve over the age of sixteen who is gainfully employed in the United States is on the public payroll.

(b) As a result the taxpayers foot a yearly salary bill of nearly four billions of dollars.

(c) Exclusive of pensioners there are 2,700,000 public servants on the payroll of national, state and municipal government. Annually these public servants receive three and one-half billion dollars in pay, and this income of these public servants is exempt from income tax.

(d) Pensioners and other inactive beneficiaries of the government number 670,000 persons. Annually they receive about three hundred and twenty million dollars. The public payroll carries, all told, about 3,400,000 men and women.

Contrast these figures with those of former years. Some time before the Civil War, one person in every thousand worked for the government —either city, county, state or national. During the administration of the late President Cleveland this ratio had risen to one person out of every hundred. Later, at the close of the war, the ratio was nearer one out of every twenty. Now it is about one out of every twelve. On this scale when 1940 comes every citizen in the country will be a government employe. At this rate there will be nothing left.

Many thousands of persons are paid in part by the Federal Government, but are not carried on its official payrolls, such for example, as county agents, employed under the Smith-Lever Act. The expansion of Federal autocracy was formerly hindered by the limits of taxation, but these have been removed from Congress by the

amendment to the Constitution to levy income taxes. Income tax makes it possible for Congress to raise practically any amount. While a few men seemingly carry this burden it is in reality passed on by them to the general public.

Further food for thought may be gleaned from discovering something about the juggernautal machine that deprives the American citizen of his constitutional liberties and places upon the shoulders of long-suffering taxpayers a four billion dollar payroll for the support of administrators of intermeddling legislation of paternalistic scope, and exempt from income tax.

In this connection the New York State Judiciary Convention reported in 1922:

(a) "In the United States there is everywhere being developed at enormous cost, in the most intensive fashion, a multitudinous bureaucracy with autocratic powers and arbitrary discretion, and a vast system of complicated and often conflicting administrative jurisdictions in relation to property and business and personal conduct, which reach and affect almost every individual, and most of which only a few years ago would have been regarded as of strictly personal concern and not to be tolerated by a free people.

(b) "Extensive legislation, executive and judicial powers are being vested and combined in administrative bodies in distinct and reckless disregard of the sound principles of the separation of governmental powers which was deemed so essential to the due protection of individual rights by the wise founders of our republican form of government.

(c) "Even controverted questions of law and fact, heretofore regarded as fundamentally and exclusively for judicial determination are being entrusted to bureaucratic discretion; and for orderly judicial procedure as known to our fathers, and the competent and impartial interpretation of the laws by the learned judges and juries—arbitrary methods, and untrained judgment are being constantly substituted."

Dr. Nicholas Murray Butler, president of Columbia University, in speaking against the tendency to increasing centralization and the proposition to establish a cabinet department of education, said:

(a) "A widespread illusion as to education is that the more elaborate, the more complicated and the more costly the machinery of school organizations, the better will be the school. The reverse is the fact. Standardization, government-made uniformity, and bureaucratic regulation are not the allies of education but its mortal enemies.

(b) "In this supposedly individualistic nation, the growth of bureaucracy and unnecessary governmental machinery is beyond measure alarming."

"I have given much thought to the question of Federal subsidies to state governments," says Calvin Coolidge. "The Federal appropriations for such subsidies cover a wide field. They afford ample precedent for unlimited expansion.

"I say to you, however, that my financial program as chief executive did not contemplate expansion of these subsidies. My policy and ideas in this matter are not predicated alone on the drain which these subsidies make on the national treasury. This of itself is sufficient cause for concern. But I am fearful that this broadening of the field of government activities is detrimental both to the Federal Government and to the State Governments.

"Efficiency of Federal operations is impaired as their scope is unduly enlarged. Efficiency of the State Governments is impaired as they relinquish and turn over to the Federal Government responsibilities which are rightly theirs."

George H. Moses of New Hampshire may be quoted in his statements that:

(a) "Paternalism runs riot in our legislatures today. Americans of seventy years ago would stand aghast if they knew how many activities which properly belong to the individual or the family, are now taken over by the government.

(b) "When governments undertake projects that are nothing but disguised socialism, laws of a very odd and curious nature will be found necessary."

One trouble it may be remarked in passing is that many persons confuse the term "paternalistic" and "paternal government" with something very kind, very generous, very sentimental, and quite magically provisional for all the ills and ails of life.

"The Burbanks of politics have grafted strange stalks upon the body of our statutes and have created a hybrid without pride of ancestry or hope of posterity. This used to be the land of the free. Now it is the region of the regulated. As it is now, the influence of the government is prenatal through the maternity bill and

postmortem through the inheritance act. It controls us before we are born and after we are dead," said Senator Moses again.

Henry L. Shattuck, chairman of the Ways and Means Committee of the Massachusetts House of Representatives, has said:

(a) "The ultimate goal of present tendencies in federal legislation is bureaucracy of the worst sort.

(b) "General welfare" is a broad term. It covers every field of activity. Should the construction relied upon by the advocates of such legislation be adopted, Congress would wield supreme power. The very existence of the states would be placed in jeopardy. Local self-government would be at an end. Bureaucracy would be in the saddle.

(c) "Every activity of our lives would be regulated from Washington. We would soon be in the condition of France where every detail of government is regulated from Paris, and which in treatises on government is cited as a horrible example of bureaucracy gone mad. By reason of the immense size of our country and the great diversity of climate, needs and conditions, the evils of bureaucracy would be far greater."

Former Gov. W. L. Harding of Iowa has said:

"In my opinion the best government is the one that governs least. We must get back to governmental conditions as they existed before the war. We must localize government. The Federal Government has its functions and they are well defined. The same is true of our local governments. During the war period there was great encroachment on the part of the Federal Government on the prerogatives of our local institutions."

The late Senator Albert J. Beveridge of Indiana protested:

(a) "Americans are required by law to do more things and prohibited by law from doing more things than had been required or prohibited in autocratic Europe.

(b) "Nearly all these repressive, oppressive, autocratic laws have been forced by selfish minorities of whom our lawmakers and administrators are in terror.

(c) "This country is smothered by statutes. The expense of government has swollen to dropsical bulk. There is today a government employe for every eleven Americans over 16 years of age. The bureaucratic mechanism is so cumbersome and intricate that no one understands it, and many superfluous laws are of a character to breed hypocrisy and furtive nullification.

(d) "The needs of the day are fewer laws, better enforced; less government, better administered, and more liberty, better ordered," also wrote Beveridge.

"Laws have become so numerous and complicated that lawyers and even the courts are forced to wander through a maze seeking some way out to light and sanity. The machinery set up by this mass of unwieldy legislation operates through swarms of government agents disciplining industry and trade and eating up the substance of the people. The administration of government has become so intricate and involved through bureaus, boards and commissions, hives of bureaucracy, that nobody can understand its workings."

The *Congressional Record,* under date of Feb. 10, 1921, cites Senator William H. King:

(a) "The struggle is now on between the consolidated and powerful Federal Government, dominated by bureaucratic forces, and the rights of the people as individuals as the sources of power and authority—and the rights of local communities and of the states themselves. And the voices that should be strong for local self-government, for personal liberty, for freedom, and for those principles and policies that make a strong and vigorous democratic people, seem to be silent while the strident cries of the centralized forces in the land, either frighten the people into submissiveness or win them to the acceptance of dangerous and destructive policies.

(b) "What we need now is a leader who will arouse the people to the necessity for putting teeth in the laws of the Federal Government and of reviving the spirit of personal independence and local self-government which inspired our fathers in the days of the revolution.

(c) *"I wish a crusade would be inaugurated in all parts of the land against the accursed spirit of bureaucracy and paternalism.*

(d) "Congress is becoming so impotent that many believe we sit in this chamber merely to O. K. bills prepared by government officials. It has been charged that we lack courage to resist those demands. There is much to support the charge."

BANQUET FOR MEDICAL LEGION MEMBERS

A banquet for physicians who are members of the American Legion has been arranged to take place in Springfield at 12 o'clock noon on Tuesday, May 17th, the first day of the annual meeting of the Illinois State Medical Society. Immediately following the banquet the meeting will be opened to the friends of the American Legion who are invited to hear three splendid addresses by

1. Edward Hayes, Decatur, Ill., Chairman of the National Rehabilitation Committee of the American Legion.

2. Col. Hugh Scott, M. D., Walter Hines Hospital, Chicago.

3. Dr. Harrison H. Shoulders, Nashville, Tenn.

This is the first time that a meeting of the character has ever been planned in connection with State Medical Society activities. Dr. R. D. Dugan, Springfield, is chairman of the American Legion Committee and has arranged the program. He will announce further details in the next issue of the JOURNAL.

GOLF TOURNAMENT AT SPRINGFIELD

There will be a women's golf tournament open to any lady who is a guest of the Illinois Medical Society at the Springfield meeting. It will be held at the Grand View Country Club at 10 A. M. Monday, May 16. Those desiring to play will please send their names to Dr. Richard F. Herndon, Myers Bldg., Springfield, Ill., as soon as possible. An effort will be made to furnish transportation to and from the club grounds.

MAKE HOTEL RESERVATIONS EARLY—ANNUAL MEETING

Springfield is pleasurably awaiting the meeting of the Illinois Medical Society on May 17, 18, 19, 1932. Springfield is a city of national historical interest, which every Illinoisan and American should give at least one appreciative visit, and May is a delightful month in which to do this.

Hotel reservations should be made as soon as possible to avoid a last minute rush. Rooms can be had at varying prices, from the de luxe accommodations of the larger hotels, to those of the smaller, quieter, and less expensive hostelries. There is ample space for all and every purse can be suited.

The Committee on Hotel Accommodations will gladly co-operate in any way possible to make your Medical Week a success and pleasure.

It is keenly hoped that members will bring their wives and families along. The women of the Auxiliary of the Medical Society are planning a hearty welcome for the ladies and will exert themselves in every way to make this visit one to be remembered.

The Sangamon County Medical Society and their Ladies' Auxiliary also join in sending an urgent invitation to you, Dr. and Mrs. Physician, to come to Springfield for this Medical Meeting, on May 17, 18, 19, 1932, to visit us and to visit our town, the home of Abraham Lincoln, and the capital of your State.

Send your reservations direct to the hotels.

HOTEL RATES

Abraham Lincoln Hotel	150 rooms	$3.00 to $7.00
St. Nicholas Hotel	350 rooms	2.00 to 6.00
New Leland Hotel	150 rooms	1.75 to 7.00
Illinois Hotel	60 rooms	1.25 to 2.50

There are other hotels, which are smaller but comfortable.

GOLF TOURNAMENT AT ANNUAL MEETING

"There will be a golf tournament at the annual meeting for interested doctors on Tuesday morning, May 17, 1932. We would like to have every county represented in the tournament. County Secretaries or individual golfers may write to Dr. F. P. Cowdin, Chairman, Golf Tournament Committee, 320½ South Fifth St., Springfield."

SOCIAL INSURANCE*

MOST GOVERNMENTS ARE INEFFICIENT OF CORRUPT—SOME ARE BOTH

One of the very first questions that naturally arises is: Have any of our governmental agencies so conducted themselves in the past as to make it reasonably safe for us to entrust so stupendous a function as universal social insurance to any branch or department? I maintain that most of our local as well as state governments are inefficient or corrupt, and some are both.

Let any one who doubts the correctness of this statement spend a little time to look around with

*Third installment of Dr. Edward H. Ochsner's articles on Medical Economics.

a critical eye and observe how most local governments, the various departments of the state in which he lives, and the departments of the federal government are conducted, and I am convinced that he will find more inefficiency than he has ever dreamed could exist. If he does not personally know of corruption and inefficiency in government, let him but scan one single daily newspaper regularly for a month in order to be convinced. And what else can one expect who is at all familiar with politics as it has been played and managed in these United States in the year 1931—the manner in which most men secure their nominations and later their elections, and to whom they are beholden when they take office?

We have all seen the statement repeatedly in the public press, but have never seen it successfully refuted, that in many of the political subdivisions of our country only sixty percent of the taxes collected are effectively spent, the remainder being frittered away, wasted or stolen. This inefficiency and corruption is due to many causes of which some of the more important are:

The fact that so far no formula has been discovered according to which the most efficient, honest, industrious and worthy members of the community can be secured for public office. Nor has there been any method devised whereby spoils politics, favoritism, pull, nepotism, waste and graft can be eliminated with even a reasonable degree of certainty. The individual who could solve these two problems would not only be the greatest benefactor of the human race but the wisest man the world has so far produced. Plato tried to solve this problem twenty-three centuries ago when he wrote his Republic. For a time he actually thought he had found a solution. He prevailed upon the King of Syracuse to adopt his plan and put it into operation. The King tried it for a while, tired of it and sold Plato into slavery. Some good friends ransomed him. After that he was not so sure that his scheme would work in practice. Things are not much different today than they were in the time of Plato. Only worse. Worse because of the increase in population resulting in larger governmental units, the enormous increase in the number of those exercising the franchise, the increase in the percentage number of ignorant voters and the ever increasing astuteness and finesse of our practical politicians.

Inefficiency and corruption is so common that we have become callous to it. We are annoyed by it, we grumble and complain mildly about it, we pay our ever mounting taxes if we have anything with which to pay and 'let it go at that.' It almost seems as though we humans had adopted David Harum's dog philosophy and were applying it to ourselves. He said:

"A certain amount of fleas is good for a dog, it keeps him from brooding on being a dog."

The best illustration of governmental muddling in general is to be found in the mess most governments of the world have made of themselves during the past twenty years. As examples, we need but call attention to the virtual bankruptcy of Germany and of Austria, the maladministration in Russia, the revolutions in Spain, China, Central and South America, the dictatorships in Poland and Italy and when we come nearer home, the general lawlessness in the United States with its murders and kidnapping for ransom; conditions in the city of New York as disclosed by the Seabury Investigation; the virtual bankruptcy of Chicago and Philadelphia, and the near bankruptcy of many other governmental units.

Let us study conditions in our own country a little more in detail in order to determine whether it would be wise or even safe to entrust the federal, state and local government or any one of them, with supervision over the private lives of its citizens. (This phase of the problem will be taken up more in detail in the future installments).

THE MEDICAL PROFESSION HAS CAUGHT UP WITH DOCTOR BEVAN

The Journal of the A. M. A. February 13, 1932, comments editorially on Doctor Bevan's latest attempt at malignment of the medical profession. We quote:

Opinions on Prescriptions of Alcohol

"Hearings before the Senate committee that is concerned with the bill introduced by Senator Bingham to modify the prohibition regulations have brought to light some astounding testimony. Among those who have participated in giving evidence was a former president of the American Medical Association—Dr. Arthur Dean Bevan. It is unfortunate that physicians should testify beyond their scientific opinions regarding the effects of alcoholic liquors on the

human body. Dr. Bevan seems to have ventured positive statements on the social effects of alcohol and on the ethical aspects of medical prescribing. In proffering his opinions, Dr. Bevan demonstrated an extraordinary lack of confidence in his professional brethren. He moralized on the terrific temptation confronting the profession through the fact that many physicians have incomes of approximately $2,500 a year and, in the right to prescribe, have seen, in his opinion, an opportunity to make $1,200 extra. Dr. Bevan is apparently familiar with the cost of whisky per case at corner stores; he asserted that a considerable number of physicians were providing the signed prescriptions that permitted druggists and bootleggers to sell this liquor by the case. The Journal wishes to protest editorially against this expression of opinion by one of the past presidents of the Association. If Dr. Bevan has actual evidence that any physician is selling his prescriptions *en masse* in order to permit druggists and bootleggers to dispose of whisky in case lots, he, and all of those who possess the information, are equally guilty with those who are violating the law in permitting the violation. If he has not the evidence, he is certainly without warrant in making such a statement to a Senate committee; in any event he is not justified in indicting the entire profession for the misdemeanors of a few. His statement reflects great discredit on a profession whose ideals are certainly as high as those of any other professional group in the country. As a leader of that profession for one year, he should be more familiar than he seems to be with its ethical standards and with the extent to which physicians actually are guided by a proper appreciation of moral values."

Dr. Bevan Refused Space in A. M. A. Journal to Discuss His Liquor Charges

According to the Chicago Tribune, February 20, 1932, Dr. Arthur Dean Bevan was refused space in the journal of the association for a letter explaining his recent testimony before a senate committee in Washington that 90 per cent of doctors' prescriptions for whisky are bootleg prescriptions.

Dr. Bevan's testimony was called an "insult to the medical profession" and an editorial in the journal reproved him for his utterances.

Thereupon, he wrote a statement for the journal, to which he received a reply as follows:

"The board of trustees has given careful consideration to your letter and to the transcript of the testimony you presented in Washington. In your letter you seem merely to reiterate the opinions expressed in the testimony which received wide publicity in the press.

"The board of trustees, therefore, does not think it desirable to publish your letter in the journal since neither the letter nor the testimony was supported by any evidence other than your own opinions, and certainly they are not substantiated by any evidence available to the American Medical Association."

Chicago Retail Druggists' Association Ask Doctor Bevan to Retract Bootleg Charges

A news item in the Chicago Tribune, February 13, 1932, says:

"Daniel P. Seibert, president of the Chicago Retail Druggists' Association, yesterday demanded that Dr. Arthur Dean Bevan, Chicago surgeon and former president of the American Medical Association, publicly retract his remark before a senate committee that Chicago druggists sell liquor illegally.

"The demand followed a meeting of the executive board of the druggists' association. Mr. Seibert asked why, if Dr. Bevan was in possession of facts relative to the violation of the Volstead act, he does not reveal the names of men individually instead of trying to incriminate the whole medical and pharmaceutical profession. 'I challenge the statement,' said President Seibert, 'as representative of 2,000 pharmacists in this city.'"

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK PROTESTS DR. BEVAN'S STATEMENTS

New York, March 1, 1932.

Charles H. Phifer, Secretary,
Chicago Medical Society,
185 North Wabash Avenue,
Chicago, Illinois.

Dear Doctor Phifer:

It gives me pleasure to comply with your request for the resolution regarding Dr. Bevan. It was adopted by this Society and reads as follows:

Whereas, The daily press has widely quoted the testimony of Dr. A. D. Bevan before the Senate manufactures subcommittee on the Bingham beer bill where Dr. Bevan asserted that 90 per

cent of the prescriptions for whiskey are for its use as a beverage; that the sale of whiskey for beverage use is made possible by the "bootlegging doctor"; that (by imputation) a large percentage of physicians increase their yearly income $1,200 through the sale of their whiskey prescriptions; and

WHEREAS, No statistics are available upon which such statements as those made by Dr. Bevan can be based; and

WHEREAS, The high position of Dr. Bevan as a leader of organized medicine gives weight to his opinions, regardless as to whether they are his conjectures or are based on fact; and

WHEREAS, Such statements tend to destroy the confidence and faith of the people in our profession; THEREFORE, BE IT

Resolved, That the Medical Society of the County of New York hereby registers its disbelief and disapproval of Dr. Bevan's statements and that a copy of this resolution be sent to Dr. Bevan, the Journal, the American Medical Association, the Cook County Medical Society, the chairman of the Senate subcommittee, and the daily press.

D. J. Dougherty,
Secretary and Director.

LIMITED PRACTITIONER NOT PRIVILEGED TO PRACTICE IN A HOSPITAL RESTRICTED IN ITS USE FOR THE TREATMENT OF CONTAGIOUS DISEASES

The Attorney General in a recent opinion relative to the Municipal Contagious Hospital in Decatur, Illinois, says:

STATE OF ILLINOIS
LAW DEPARTMENT
SPRINGFIELD

Oscar E. Carlstrom,
Attorney General.
FILE NO. 3772 February 3, 1932.
HEALTH:
Practice of Medical
Practitioners in
Hospitals.
Hon. Andy Hall, Director,
Department of Public Health,
SPRINGFIELD, ILLINOIS.
Dear Sir:

I have your letter of January 23rd, in which you say some years ago a hospital for contagious disease was erected in the City of Decatur at the expense and to be maintained by the taxpayers of that city, but that owing to a controversy between the physicians of that city and the board of trustees of the hospital, the hospital is not being used for any purpose. You say that you have been informed that a number of cases of communicable diseases now exist in the City of Decatur, which should be hospitalized in the said hospital. In your letter you say:

"In view of the fact that the hospital constructed in the City of Decatur at the cost of the taxpayers of that city was restricted in its use specifically and solely for the treatment of contagious diseases such as smallpox, diphtheria, measles, scarlet fever, meningitis, infantile paralysis and other communicable diseases, and for no other purpose, would in your opinion physicians holding a limited license from the State of Illinois to treat human ailments without the use of drugs or medicine and without operative surgery, such as osteopaths or chiropractors, have the right to participate in the use of such hospital and its services, notwithstanding such hospital was erected and is being maintained by taxation?"

Under date of December 18, 1930, I rendered you an opinion, File No. 2973, in reply to your letter of December 11, 1930 addressed to me. In your letter of that date you said:

"I am now in receipt of a letter from the Secretary of the Board of Directors of that hospital wanting to know whether their Board is authorized to fix a standard of qualifications for those who practice in the City Contagious Hospital. They would like to secure your opinion covering this and they 'also desire to inquire if the Board of Directors knowingly permits one not qualified or licensed by the state to carry out the recognized treatment of contagious diseases, Diphtheria for instance, might they be held responsible for negligence.'"

In this opinion I held that the Board of Directors of the said hospital had no authority to pass any rule or regulation which would prevent all legal practitioners from having equal privileges and treating patients in said hospital. This conclusion was based upon the provisions of section 11 of an act entitled, "An Act to revise

the laws in relation to establishing and maintaining public hospitals in cities of less than one hundred thousand inhabitants," the same being paragraph 175 of chapter 23, Smith-Hurd's Revised Statutes, 1931. This section provided:

"All physicians who are recognized as legal practitioners by the State Board of Health of Illinois shall have equal privileges in treating patients in said hospital."

In construing the phrase "equal privileges," it must be remembered the legislature, by the passage of the Medical Practice act of 1923, divided physicians into two classes; one class that practices medicine in all its branches, and the other class that treats human ailments without the use of drugs or medicine and without operative surgery. In view of this classification, it cannot be presumed that the legislature intended to accord to the class of practitioners treating human ailments without the use of drugs or medicine and without operative surgery the same right to practice as that class of practitioners practicing medicine in all its branches, if the treatment for a particular disease required the use of medicine or drugs or operative surgery. Equal privileges, as used in the aforesaid section, in my opinion, mean equal privileges to practitioners of the same class.

It cannot be questioned but that the treatment of the contagious diseases stated in your letter, namely: smallpox, diphtheria, measles, scarlet fever, meningitis, and infantile paralysis, of necessity from the very nature of the disease, required the use of medicines and drugs and often operative surgery.

The use of medicines and drugs and operative surgery by a limited practitioner is prohibited by the provisions of the Medical Practice act and such practitioner is restricted in his practice to the treatment of human ailments without the use of medicine and drugs and operative surgery.

It is therefore my opinion that a limited practitioner is not privileged to practice in a hospital restricted in its use specifically and solely for the treatment of contagious diseases.

Very truly yours,

(Signed) OSCAR E. CARLSTROM,

MFW:CKN Attorney General.

REPORT OF EDUCATIONAL COMMITTEE

February, 1932

Speakers' Bureau

32—Health talks were scheduled by the Committee.

- Women's Clubs
- Parent Teacher Associations
- High School Assemblies
- Hospital Staff
- Y. M. C. A.
- Public meeting—diphtheria immunization
- Sunday school class
- Men's Brotherhood of a Church
- Public Health Chairmen of district, Illinois Federation of Women's Clubs
- Lions Club
- Home Bureau
- County Teachers' Institute
- Illinois Farmers Institute
- Chamber of Commerce
- Woman's Auxiliary

Comments on these talks:

"A very interesting speech. It was particularly suitable to the type of audience—mothers of children from 6 to 10."

"A very splendid talk. Dr. T. presented his subject in a very interesting way. He gave a very clear idea of the structure of the feet and the care of them. He held the attention of his audience the entire time. A splendid speaker for a high school group."

"The finest talk we have had in our institute."

Scientific Service

24—Scientific papers scheduled for medical societies:

- Will-Grundy County—
  - Lee O. Frech—"Medical Economics."
  - Edmund Andrews.
  - C S. Williamson—"The Management of the Commoner Heart Conditions."
  - Clifford Grulee—"Pneumonia in Infants and Children."
- Monmouth Physicians Club—
  - Harold Swanberg—"Recent Developments in Radiology."
- Perry County—
  - Thomas B. Kelly—"Infections of the Gall Bladder.
  - J. R. Ballinger—"Malpractice."
- Aurora Medical Society—
  - Edward A. Oliver—"Practical Points in Dermatology."
- Paris Hospital Staff—
  - James T. Case.

Rock Island County—
James T. Gregory.
LaSalle County—
Robert Berghoff—"Syphilis of the Heart."
Arno B. Luckhardt—"Ethylene Anesthesia."
D. Raymond Dwyer—"Hyperthyroidism."
Whiteside County—
M. Herbert Barker—"Nephritis."
Don C. Sutton—"General Survey of Heart Disease."
Kane County—
John A. Wolfer—"Diseases of the Common Duct."
Warren County—
Herman H. Cole—"Surgical Treatment of Tuberculosis."
James H. Hutton.
Jackson County—
John R. Caulk, St. Louis—"Genito-Urinary Diseases."
Randolph County—
Charles S. Skaggs—"Hypertension."
H. A. Cables—"Broncho Pneumonia."
Fulton County—
Harold M. Camp—"Medical Economics."
Charles P. Blair—"Spinal Injuries."
Iroquois County—
Leon Unger—"Recent Advances in Treatment of Asthma and Hay Fever."

The office of the Committee sent out notices to physicians for the meetings of Perry, Randolph and LaSalle Counties. Return postal cards were enclosed.

PRESS SERVICE

911—Total releases for the month of February.

498—Regular Press Service.

27—Papers received monthly health article.

49—Newspapers, re meeting Madison County Medical Society.

53—Newspapers, re meeting Perry County Medical Society.

34—Newspapers, re meeting Randolph County Medical Society.

69—Newspapers, re meeting Warren County Medical Society.

57—Newspapers, re meeting Whiteside County Medical Society.

95—Newspapers, re Cancer meeting, Chicago Medical Society.

27—Community newspapers, re meetings Branch Societies of Chicago Medical Society.

2—Chicago Association Commerce, re meetings Chicago Medical Society.

Special health articles were sent to Joliet and Greenup to arouse interest in diphtheria immunization, smallpox vaccination, etc.

RADIO

42—Radio talks were given from WGN and WJJD; those given during the regular periods were as follows:

Allan H. Ferguson—"Practical Suggestions for the Mother."
Hugo R. Rony—"Obesity and Leanness."
Frank J. Jirka—"Cancer."
Homer W. Humiston—"Cathartic Misuse."
Gilbert H. Marquardt—"Rheumatism."
E. A. Proby—"Complicating Diseases During Pregnancy."
Maximilian Kern—"Goiter."
Joseph Welfeld—"Common Skin Disorders."
Charles J. Drueck—"Constipation."
Robert L. Ladd—"Constipation."
Andrew McNally, Jr.—"Cancer of the Urinary Organs."
B. Barker Beeson—"Cancer of the Skin."
Daniel A. Orth—"How Can I Escape a Cancer Death?"
Arthur F. Abt.—"Child Health."
Robert Blue—"The Eyes as a Factor in Health and Efficiency."
Philip H. Smith—"Postnatal Care."
David L. Schram—"Heart Disease."

MISCELLANEOUS SERVICE

15—Folders of health material compiled and sent out to doctors and club women.

1,068—Clippings received and filed—1,125 were received and filed during the month of January.

Notices mimeographed for the Woman's Auxiliary.

Information as to the chemical composition of a drug, obtained for the Home Economics Extension Service of the University of Illinois.

A special folder of material compiled giving reviews of all articles that refer to medical care and physicians appearing in important lay journals during the year 1931.

Material secured for physicions preparing scientific papers.

Supplied material for the second issue of the Child Health Magazine section of the Sunday Herald and Examiner.

In order to find out if the radio talks were interesting the public, we announced that copies of one talk could be secured upon request. Over one hundred replies were received from all parts of the Middle West.

DON'T FORGET YOUR INCOME TAX RETURNS

Physicians are reminded to file their federal income tax returns without delay. They must be filed not later than March 15.

The Ohio State Medical Journal (February) gives a summary of the law, and discusses the allowable deductions as follows:

"OFFICE RENTALS: If a physician pays rent to another person for office space, he may deduct the amount; if he owns his own home and maintains an office in it, he cannot claim deduction for office rent.

"AUTOMOBILE: The cost of repair and upkeep of an automobile used in professional visits may be deducted. That part of a salary paid to a chauffeur and attributable to time spent in driving his employer on professional calls, may be deducted. Sums spent for taxi hire, carfare, etc., while on professional calls, may be deducted.

"Loss on an automobile used in professional business through depreciation may be deducted. The depreciation which should be deducted annually is figured by dividing the cost price of the machine by the number of years of its usefulness.

"If a physician has one automobile which is used exclusively in professional business he may deduct the full depreciation each year. If the machine is used only partly in professional business, the deductible depreciation should be computed on the basis of the amount of time the car is used for professional purposes.

"If a physician possesses two cars, each of which is used partly in professional business, the deductible depreciation on each car should be computed on the basis of the amount of time each car is used for professional purposes.

"In other words, if an automobile is used only partly for business purposes, depreciation may be deducted only on a proportionate part thereof, the amount of depreciation depending on the amount of time the machine is used in professional business.

"PROFESSIONAL DUES: Dues paid to professional associates to which, in the interest of his profession the physician belongs, are exempt and may be deducted. Travelling expenses incurred in attending medical conventions of organizations of which he is a member are deductible from gross income in determining net income derived from practice. Expenses incurred in taking graduate courses have been held NOT to be deductible.

"ASSISTANTS: Deductions are permitted for the salaries of nurses, laboratory workers, technicians, assistants, stenographers or other clerical workers in offices so long as their duties are connecetd with professional work. Wages paid maids for services rendered in connection with practice are deductible.

"MEDICINE, INSTRUMENTS, SUPPLIES: Medicines used in the office to treat patients, medicine dispensed, bandages, laboratory materials and all other supplies necessary to operate the office may be deducted. Upon surgical instruments, one-fifth of purchase price may be deducted annually for five years under depreciation account. All office fixtures, appliances, etc., used in office or laboratory may be depreciated annually, according to the estimated life of their usefulness.

"GENERAL OFFICE EXPENSE: Cost of telephone, telegrams, etc., used in professional services may be deducted. Expenditures for heat, light, water, etc., are deductible. Office fixtures and furnishings may be depreciated 10 per cent annually. Original cost of medical books may be depreciated 10 per cent annually, since the life of these is usually considered 10 years.

"WHEN TO DEDUCT DEBTS: If the physician's books are kept according to the 'Cash Receipts and Disbursement' system, he may not charge off any unpaid debt because he is then only reporting as gross income those accounts which have proved to be good. Bad accounts have not been reported and are, therefore, not deductible.

"If books are kept on an 'Accrual Basis' (where expense is actually incurred and payable even though not yet paid, or income earned although not yet collected) it is permissible to charge off all debts which have been definitely ascertained to be worthless during the fiscal year covered by the report.

"In the same way, the physician is permitted to claim deduction for all other expenses within the scope of his profession, and the amount of his tax is determined on the net income which remains after these items have been deducted.

"TAXES AND LICENSES: Any tax paid upon materials required in professional work are exempt. All license fees which physicians are required to pay are deductible items. This includes the narcotic tax, automobile license, local occupational taxes, taxes on club dues, etc. The Ohio Gasoline Tax is not deductible.

"LOSSES BY FIRE AND THEFT: Loss of and damage to a physician's equipment by fire, theft, or other cause, not compensable by insurance or otherwise recoverable, may be computed as a business expense, and is deductible, provided evidence of such loss or damage can be produced. Such loss or damage is deductible, however, only to the extent to which it has not been made good by repair and the cost of the repair claimed as a deduction.

"INSURANCE PREMIUMS: Premiums paid for insurance against professional losses are deductible. This includes insurance against damages for alleged malpractice, against liability for injuries by a physician's automobile while in use for professional purposes, and against loss from theft of professional equipment, and damage to or loss of professional equipment by fire or otherwise.

"LEGAL EXPENSE: Expense incurred in the defense of a suit for alleged malpractice is deductible as business expense. However, expenses incurred in the defense of a criminal action are NOT deductible.

"OTHER ALLOWABLE DEDUCTIONS: All taxes paid upon real or personal property, whether the property is used for business or otherwise and all in-

terest paid upon indebtedness (except interest paid to carry nontaxable securities) are deductible. It is permissible to deduct from gross income, contributions when made to charitable, religious, educational and scientific organizations, to an amount not to exceed 15 per cent. of the net income, exclusive of such contributions.

"ITEMS NOT REPORTABLE AS INCOME: Allowances received under the War Risk Insurance act; bequests; damages received in personal action; dividends on stock of federal reserve banks, land banks and intermediate credit banks; dividends from exempted building and loan associations up to $300; dividends from corporate earning accumulated prior to March 1, 1913; gifts, inheritances, insurance proceeds; state court jury fees, state court receivership fees, life insurance proceeds, and stock dividends and rights, are not reportable as income.

"All interest received from obligations of a state or political subdivision thereof; from securities issued under the Farm Loan act; interest on Liberty 3½% Bonds and U. S. Bonds issued prior to September 1, 1917, and interest on the obligations of the possessions of the United States need not be included in the computation of gross income.

"Interest received on Liberty 4% and 4½% Bonds and certain other United States obligations is exempt if the total holdings are not in excess of $5,000. All interest received on United States Treasury notes must be reported. However, all interest received from these sources which is reportable as income, is subject only to surtax."

CORPORATIONS CANNOT PRACTICE MEDICINE IN THE STATE OF WASHINGTON

California and Western Medicine (February, 1932) published an opinion of the Attorney General of the State of Washington in which he outlined the limitations of the rights of corporations, as regards the practice of the professions of medicine, dentistry, and law, we quote:

LIMITATIONS OF CORPORATIONS IN PRACTICE

The Attorney-General of the State of Washington recently rendered to the Director of Licenses of that state an opinion in which he outlined the limitations of the rights of corporations, as regards the practice of the professions of law, medicine, and dentistry.

The opinion of Attorney-General John H. Dunbar is here presented for its general reference value. It is as given below:

Hon. Charles R. Maybury,
Director of Licenses,
Olympia, Washington.
Attention: Mr. George L. Berger, Assistant Director.
Dear Sir:

We have your letter of November 28, which reads in part as follows:

"We would greatly appreciate an opinion as to whether or not it is a violation of the optometry law for an unlicensed person or a corporation to advertise optometry without stating the optometrist's name, although they may have a licensed optometrist in the place of business . . ."

Section 10147, Rev. Comp. Stat. reads as follows:

"Any person shall be deemed to be practicing optometry within the meaning of this act who shall in any manner, except as provided in Section 10159, first, display any sign, circular, advertisement or device purporting or offering to in any manner examine eyes, test eyes, fit glasses, adjust frames or setting himself or herself forth as an optometrist, optician, specialist, optical specialist, eyesight specialist or refractionist, with intent to induce people to patronize himself, herself, or any other person; second, who shall make in any manner a test or examination of the eye or eyes of another to ascertain the refractive, muscular or pathological condition thereof; third, who shall in any manner adapt lenses to the human eye for any purpose either directly or indirectly."

Section 10148, Rev. Comp. Sat., makes it unlawful for any person to practice optometry without a permit.

Section 10150, Rev. Comp. Stat., specifies the requirements and qualifications necessary to entitle a person to a permit.

Section 10159, Rev. Comp. Stat., provides that the act relating to optometry shall not apply to a regularly qualified oculist or physician, nor to persons selling or offering to sell spectacles or eyeglasses as regular merchandise without pretense of adapting them to the eyes of the purchaser.

The word "person" as used in Section 10147 includes corporations. Section 146, Rev. Comp. Stat. It is well settled that a corporation cannot practice any of the learned professions. The rule is well stated in Corpus Juris, Vol. 14A, page 296.

"It is not within the power of a corporation to carry on the business of practicing one of the learned professions, among which may be mentioned specifically law, medicine, or dentistry, or to hire practitioners to carry on such business for it, although practitioners may be hired in some states under local statutes providing that it shall be unlawful for any person to practice a particular profession without first being licensed to do so. This is the established policy of the states generally, independently of statute, as applied to the construction of charters and general statutes governing the organization and powers of business corporations . . ."

Our supreme court in the case of *State ex rel. Lundin* vs. *Merchants Protective Corporation,* 105 Wash. 12, held that a corporation could not practice law in this state. In that case regularly licensed attorneys were employed by the corporation to do the actual legal work. However, the contract with the client was between the corporation and the client and not between the attorney employed by the corporation and the client. The court quotes from 2 R. C. L. 946, as follows on page 17:

"Since, as has been seen, the practice of law is not a

lawful business except for members of the bar who have complied with all the .conditions required by statute and the rules of the courts, and as these conditions cannot be performed by a corporation, it follows that the practice of law is not a lawful business for a corporation to engage in. As it cannot practice law directly, it cannot do so indirectly, by employing competent lawyers to practice for it, as that would be an evasion which the law would not tolerate."

A corporation is purely a creature of the statute and can only be formed for such purposes as provided for in the statute. There is no statutory authority for the formation of a corporation to practice any of the learned professions. In our opinion, optometry, while possibly not requiring the same degree of learning as some of the learned professions, for example, medicine and surgery, still it must be classed as a learned profession. A certain degree of learning is required before a license will be issued. A corporation, not having a mind but being an artificial being could not qualify for a license. We therefore must conclude that a corporation cannot practice optometry in this state.

We then come to the question of whether or not a corporation which advertises to furnish optometry service by regularly licensed optometrists is practicing optometry. Under the strict construction of Section 10147, Rev. Comp. Stat., this must be answered in the affirmative since the statute defines practicing to include the display of "any sign, circular, advertisement, or device purporting or offering to in any manner examine eyes, test eyes, fit glasses, adjust frames, or setting himself or herself forth as an optometrist, optician, specialist, optical specialist, eyesight specialist, or refractionist, with intent to induce people to patronize himself, herself, *or any other persons* . . ." However, regardless of this statute, a corporation can only act through its officers and agents. If a corporation could furnish optometry services by employing regularly licensed optometrists, it could just as well perform dental services by employing regularly licensed dentists, and just as well perform medical services by employing regularly licensed physicians and surgeons, and even legal services by employing regular licensed lawyers. The client or patient would be dealing with the corporation and not with the practitioner. The right to practice any of these professions is in the nature of franchises from the state conferred only for merit. No one can practice them until they have complied with certain qualifications which, obviously, a corporation cannot comply with. We believe the same reason would apply to the case of a corporation practicing optometry through agents who were regularly licensed optometrists as was used by our supreme court in the case of a corporation practicing law through regularly licensed lawyers.

The question, then arises whether or not a person not a corporation who is not a licensed optometrist can own, run or manage an office where optometry is practiced by regularly licensed optometrists. In the case of *State* vs. *Brown,* 37 Wash., 97, it was held that the statute which required a license before any person would lawfully own, run or manage a dental office as distinguished from the practice of dentistry was unconstitutional. In that case the owner was not prosecuted for practicing dentistry as defined by the dental law, but was prosecuted because he did not have an owner's, operator's, or manager's license. The court held that the statute requiring such a license was not a reasonable health requirement and, of course, this is the only ground on which the constitutionality of such a statute could be sustained. It therefore reached the conclusion that the statute was unconstitutional. This case was decided in 1905. However, it is very probable that the Supreme Court would follow it and it is possible that under the holding in this case the court would hold that the provisions of Section 10147, *supra,* which make it unlawful for a person who is not a regularly licensed optometrist to advertise for optometry service to be performed by a regularly licensed optometrist, would be unconstitutional. However, the statute has been in force for a number of years and its constitutionality has not been questioned, and we therefore must take the position that it is constitutional until the court holds otherwise.

We therefore conclude that a corporation cannot practice optometry in this state and that the advertising by a corporation for optometry services to be performed by a licensed optometrist employed by the corporation is practicing optometry as defined by the statute. We further advise that an individual may own, manage and operate an office where optometry is practiced by regularly licensed optometrists employed by the owner, but that any advertising done by him in connection with this business does, under the statute, constitute practicing optometry and unless this owner is a regularly licensed optometrist any advertising must be done in the name of the person properly licensed.

Yours respectfully,
JOHN H. DUNBAR,
Attorney-General.

THE AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The next written examination of the Board will be held in nineteen (19) different cities of the United States and Canada at 2 p. m. on Saturday, March 26, 1932. The general, oral and clinical examination will be held in New Orleans on Tuesday, May 10, 1932, immediately preceding the meeting of the American Medical Association. Reduced railroad fares will be available. For detailed information and application blanks apply to the Secretary, Dr. Paul Titus, 1015 Highland Building, Pittsburgh, Pennsylvania.

LIST OF SPECIALISTS IN ILLINOIS LIMITING THEIR PRACTICE TO OBSTETRICS AND/OR GYNECOLOGY WHO HAVE BEEN CERTIFIED BY THIS BOARD

Adair, F. L., Chicago
Bacon, C. S., Chicago
Baer, J. L., Chicago
Bloomfield, J. H., Chicago
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Cornell, E. L., Chicago
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Falls, F. H., Chicago
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Frankenthal, L. E., Jr., Chicago
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Simon, L. S., Chicago
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Correspondence

ARE HOSPITALS AND THE MEDICAL PROFESSION TO BE INSURED AGAINST LOSS FOR CARING FOR PERSONS INJURED IN AUTOMOBILE ACCIDENTS?

UNITED STATES FIDELITY AND GUARANTY COMPANY

Chicago, Ill., February 26, 1932.

To the Editor:

In the February issue of the ILLINOIS MEDICAL JOURNAL there was an editorial entitled "THE MEDICAL PROFESSION AND HOSPITALS ARE BEING STUNG TO THE TUNE OF $25,000,000 ANNUALLY IN CARING FOR VICTIMS IN AUTOMOBILE ACCIDENTS."

I forwarded this editorial to Dr. J. W. Martin, Medical Director of this Company, who had spoken to me of this condition prior to your publication and expressed himself at that time as being in favor of trying to work out some plan whereby this unfortunate situation could be at least partially overcome.

I have received a communication from him to the effect that he would like me to take this matter up with our local manager and legal department and see what suggestions, if any, they would have to offer.

I would, therefore, appreciate it very much if you would furnish me with an additional copy of this editorial.

Thanking you for your cooperation in this matter, I am

A. T. G. Remmert, M. D.,
Zone Surgeon, 166 W. Van Buren St.

TREATMENT IN INFANCY OF CONGENITAL DISLOCATION OF HIP

Charles H. Jaeger, New York (*Journal A. M. A.*, Jan. 23, 1932), describes his method of treatment in infancy of congenital disclocation of the hip. It consists in principle of four points: 1. By means of a brace the affected limb is held in marked abduction, a position which favors a return of the head into the socket. 2. By means of an adjustable pad a gentle pressure is applied downward and inward on the trochanter. As a result, after four weeks the head is in the desired position, and no additional pressure is needed. 3. No standing or walking is permitted while the brace is worn. 4. The curative brace is used for about four months, when it is replaced by a convalescent splint (extending to the knee only), in which the child is allowed to walk. This is to be used for a reasonable time to permit the elongated and stretched joint structures to contract. This will hold the hip firmly in the socket, which has now been completely formed. This treatment holds good for infants who are treated during the first year of life. It is for these young children alone that this treatment is designed. This method of treatment assures a physiologic reconstruction of the acetabulum. It takes advantage of the great urge of growth in infancy to remodel all the joint structures. The roentgenograms show how quickly and completely this is done. It avoids the dangers of narcoses, manipulations and open operations. The short duration of treatment prevents muscular atrophy. This treatment, begun early and properly carried out, should result in perfect anatomic and functional cures.

RELATIONSHIP OF VITAMIN A TO RESPIRATORY INFECTIONS IN INFANTS

L. H. Barenberg and J. M. Lewis, New York (*Journal A. M. A.*, Jan. 16, 1932), present the results of an investigation to ascertain whether any relationship exists between the vitamin A content of the diet and the occurrence of respiratory infections. The incidence and severity of these infections were determined in four

groups of infants, receiving various quantities of vitamin A in their diets. The first group comprised nineteen infants receiving partly skimmed milk; the second, ninety-four infants receiving pasteurized milk and 20 drops of viosterol; the third, eighty-five infants receiving pasteurized milk and three teaspoonfuls of standardized cod liver oil, and the fourth, six infants receiving pasteurized milk and six teaspoonfuls of cod liver oil. All infants were given orange juice at six weeks, butter at six months and vegetables at eight months of age. Thus the four diets represented a small, a moderate, a large and a maximum amount of vitamin A. These infants were observed in an institution, for periods varying from four to twelve months. Respiratory infections were classified as mild, moderate or severe (purulent otitis media, mastoiditis and pneumonia being classed as severe infections). The results may be summed up in a few words: "No significant difference in incidence or severity of respiratory infections was noted in the four groups of infants. Thus the group which received the largest daily amount of vitamin A, through the addition of cod liver oil, was not protected against respiratory infections to a greater degree than the other groups.

DIPHYLLOBOTHRIUM LATUM: INFESTATION ON EASTERN SEABOARD

Twenty-one cases of infestation with Diphyllobothrium latum are reported by Milton Plotz, Brooklyn (*Journal A. M. A.,* Jan. 23, 1932), from New York City. These are the first cases reported in the literature from New York State and include five patients born in the United States, bringing the total number of reported native cases to thirty-one. All but two of the patients were females and all but two Jewish. Mild to severe anemia was found in all of fifteen cases in which blood studies were made. One is not justified in concluding from this series that there is a definite relationship between primary anemia and this disease. Eosinophilia was found in five of eleven cases in which differential counts were made. The author hopes that this report will stimulate further search for this parasite on the Eastern seaboard.

MACROCYTOSIS OR ERYTHROCYTES AND ACHLORHYDRIA IN PERNICIOUS ANEMIA

Russell L. Haden, Cleveland (*Journal A. M. A.,* Jan. 16, 1932), believes that an increase in size of the average erythrocyte, best indicated in terms of volume, is the most constant and characteristic finding in the blood in the presence of pernicious anemia. An increased volume index was found in every patient in a series of 152 cases studied by him. Free hydrochyloric acid is seldom, if ever, found in the gastric contents of a patient with idiopathic pernicious anemia. An achlorhydria was demonstrated in every one of the 152 patients. The mean corpuscular volume may be quite large even with a relatively high count; therefore it does not vary with the red cell count. If the deficiency which is responsible for the disease is adequately supplied, the cells return to normal size. The first indication of ar elapse or a lack of a sufficient quantity of the missing principle is an increase in the volume of the red cells. Macrocytosis may occur in the presence of conditions other than pernicious anemia, but was found only nine times in a study of 411 patients and normal individuals. Achlorhydria is a frequent finding in various clinical conditions, especially in the age period in which pernicious anemia is most common. A combination of macrocytosis of the erythrocytes and achlorhydria is seldom if ever found, except in the presence of pernicious anemia. The finding of an absence of free hydrochloric acid on gastric analysis and an increased mean corpuscular volume or plus volume index is a practically constant finding and one that is necessary for the diagnosis of active pernicious anemia; if demonstrated, it is almost pathognomonic of the disease.

HYPERGLYCEMIA IN PERSONS WITH ADVANCED SENILE CATARACT

C. S. O'Brien, Iowa City (*Journal A. M. A.,* Jan. 23, 1932), attempted to determine the relationship, if any, between hyperglycemia and senile cataract. Knowing that changes in the lens occur as a complication of diabetes and other metabolic diseases, it was thought that hyperglycemia, if it existed in those affected with senile cataract, might have some part in causing these changes. If there existed even a moderate increase in the sugar concentration of the blood and of the fluids bathing the lens, and this acted over a period of years, possibly there was a deleterious action on the cortical fibers of the lens. It really would not matter whether the patient had clinical diabetes or not; so long as there existed a hyperglycemia, such an action could take place. The study was made on a series of 238 patients with senile cataract as they were admitted to the wards of the hospital for extraction of the lens. The age of these subjects was from 38 to 91 years, 95 per cent. of them being between the ages of 50 and 88. The average age was 66 years. Determinations of the fasting, capillary blood sugar were made by the Boyd micromodification of the Folin-Wu method on 238 patients. In ninety-nine cases (41.6 per cent.) the fasting blood sugar was above the recognized maximum normal limit of 120 mg. per hundred cubic centimeters. It appears, therefore, that abnormally high concentrations of sugar in the blood and body fluids may have a bearing in many cases on the etiology of cataract.

TOO EARLY

A Chicago physician was walking home one night when a footpad snapped out: "Stick 'em up! Fork over the dough!"

"I'm sorry," said the doctor, "but this is only the twenty-second of the month and the bills I sent out on the first haven't been paid yet. If you had waited until the thirtieth I could probably have done something for you."

Original Articles

CORRELATION OF CLINICAL MANIFESTATIONS AND PATHOLOGIC CHANGES IN NEPHRITIS

J. P. Simonds, M. D.
CHICAGO

For practical purposes, both clinical and pathological, nephritis can be conveniently divided into two main groups:—those in which the primary damage is to the secretory portion of the kidneys; and those in which the primary lesion is in the smaller arteries and arterioles. Cases of the first type may be either acute, subacute or chronic and have been variously termed parenchymatous nephritis, glomerulonephritis and nephrosis; those of the latter group are practically always chronic and include the so-called chronic intersititial nephritis and arteriolo-sclerotic, primary and genuine contracted kidneys. These two groups are each characterized by definite morphologic changes in the kidneys and each affects the functions of these organs in a different manner.

The chief advantage of this simple classification is that it enables one to make a satisfactory correlation between the pathological changes in the kidneys and the clinical manifestations of the disease, and it furnishes a rational basis of treatment. More elaborate classifications are unnecessary and generally lead to confusion because they attempt to make separate entities and types out of different stages of the same morbid process or out of different combinations of the same unit pathologic lesions; and because they tend to divert attention from the fundamental alterations in the functions of the kidneys.

In order to present the full significance of this simple classification certain facts concerning the kidneys must be mentioned. The kidneys are very complex organs composed of some two million physiologic units. These units are themselves very complex and consist 1. of the afferent vessel; 2. the glomerulus with its loops of capillaries lined with endothelium and covered with flat epithelium which is reflected from the capillary tuft on to the inner surface of the capsule of Bowman; 3. the long tortuous tubule differing in structure as well as in function in its different parts. The blood supply of the first and functionally most important part of this tubule is obtained from capillaries into which the efferent artery from the corresponding glomerulus breaks up. The different parts of this complex physiologic unit are so interrelated and coordinated that damage or destruction of one part results in changes in the other parts of it. Thus destruction of a glomerulus is followed by atrophy or even complete disappearance of the tubule to which it gives rise because the nutrition of the tubule is dependent upon the blood supply from the glomerulus itself.

In a previous paper I have stated that in nephritis there are numerous "possible variations 1. in the different interdependent anatomical elements involved; 2. in the nature and in the intensity and mode of action of the injurious agents that may affect the kidneys; 3. in the number of relatively simple pathologic processes that may occur in the different anatomic elements of the kidneys; and 4. in the degree of chronicity of the disease. When all of these variables are considered the number of mathematically possible combinations becomes so great that one is led to suggest that perhaps there are almost as many types of nephritis as there are patients with the disease."

In the first group or type a great variety of unit pathological changes may take place, such as, thrombosis and embolism of the capillaries of the glomeruli, accumulation of leucocytes in the glomerular capillaries and in Bowman's capsule, proliferation of the endothelium lining, or of the epithelium covering these capillaries, degenerative changes in the capsular epithelium and the tubular epithelium. These changes may occur in varying combinations and it is possible to make pathologic subgroups on the basis of combinations of these changes. But from the clinical standpoint the making of these subgroups is unnecessary, and leads to confusion.

The fundamental effect of these pathological changes in the secretory portion of the kidneys is to increase the permeability of the filtering apparatus of the kidneys. This is the underlying fact in the explanation of the clinical manifestations of this type of the disease. As a result of this increased permeability not only nitrogenous and other waste products but even albu-

*(From the Department of Pathology, Northwestern University Medical School.)

*Read before the Section on Medicine of the Illinois State Medical Society, May 6, 1931, East St. Louis.

min and sometimes blood cells escape through the damaged and hyper-permeable glomeruli. In cases of this type there is, therefore, no increase of blood urea, non-protein nitrogen and creatinin. Phenolsulphonphthalein is excreted in practically normal amounts. Elevation of blood pressure is not present except in occasional cases of acute nephritis of this type when so many glomeruli become occluded by thrombi or emboli or proliferated endothelium or by the accumulation of great numbers of leucocytes, or in the very late stages of the chronic form of the disease when so many glomeruli are destroyed that the remaining intact and functioning glomeruli have been reduced below the factor of safety of the kidneys.

Edema is a characteristic of this type of nephritis and depends upon two factors, namely, the depletion of the blood of its serum albumin and the retention of crystalloids especially sodium chloride in the tissues. Barker and Kirk have shown that the reduction of the serum albumin of the blood to below 1 per cent. results in edema. But this is not the only factor concerned. Sodium chloride is retained not in the blood but in the tissues themselves. This may be a compensatory mechanism for the presence of an excess of crystalloids in the tissues increases the osmotic pressure of the tissue fluids with consequent withdrawal of water from the blood into the tissues. This tends to concentrate the blood plasma and thus partially compensates for the loss of serum albumin.

The quantity of urine secreted in this type of nephritis is characteristically less than normal and its specific gravity is increased. The decreased quantity may be due to slowing of the current of blood through the glomerular capillaries as a result of swelling of the lining endothelium or partial obstruction by the presence of thrombi. The increased specific gravity is due chiefly to the amount of albumin present in the urine. The casts which are a constant finding in this type of disease are formed from the albumin and products of disintegration of degenerating tubular epithelium.

The clinical manifestations of this type of nephritis can therefore be explained on the basis of damage to the glomeruli and the consequent increase in their permeability and loss of serum albumin from the plasma and the retention of crystalloids which may be intimately associated with the latter phenomenon.

In the second type of nephritis the chief and primary lesion is in the arterioles. This is not the ordinary type of arteriosclerosis but more in the nature of an obliterating endarteritis or a hyperplastic elastic thickening of their intima. In either case the lumen of the vessel is gradually narrowed and finally obliterated. This change is widespread throughout the kidneys but is not limited to these organs. It is present in the arterioles of the spleen, pancreas and even in those of the heart, brain and skeletal muscles. It is therefore fundamentally of the nature of a generalized disease of the arterioles of the body. Its occurrence in the kidneys leads to symptoms which have given rise to this type of nephritis. The condition may not be, therefore, primarily a disease of the kidneys, although it affects their function and sooner or later leads to death.

The first symptom of this type is increase in blood pressure. This is due to the generalized disease of the arterioles and narrowing of their lumens. For a time it compensates for the stenosis of the afferent vessels in the kidneys. In order to secrete urine in the normal amount the glomeruli must receive a sufficient amount of blood under an adequate filtration pressure. In the presence of this disease of the arterioles of the kidneys this would be impossible but for the increase in blood pressure which serves as a compensatory mechanism although it is probably not called forth by the changes in the renal vessels alone. The first effects upon renal function manifest themselves when a sufficient number of glomeruli receive insufficient blood under inadequate pressure for filtration. The result is a reduced amount of filtration fluid passing into Bowman's capsule and thence into the tubules. Inasmuch as the fluid which is filtered through the glomeruli has in solution crystalloidal waste products such as urea, creatinine, etc., in the same concentration as that in which they are present in the blood the total quantity of these substances which pass through the glomeruli in 24 hours is reduced and thus retention occurs. Since the glomeruli receive an inadequate supply of blood the nutrition of the tubules which come off from those glomeruli is interfered with and their function is impaired, with resulting subnormal absorption of water.

The net result is an increased quantity of urine of low specific gravity, diminished excretion of waste products and their accumulation in the blood itself. The marked retention of phenolsulphonphthalein which is so characteristic of this type can be accounted for on the same basis as the retention of the normal waste products of the body.

Alteration of the difference between the quantity and specific gravity of day and night urine is a further characteristic of this disease. This "fixation of specific gravity" is due to several factors. In the first place the factor of safety of the kidneys has been reduced even to a negative quantity, so that the kidneys are functioning at or near their full capacity at all times. Furthermore, on account of the increased blood pressure the normal diurnal variations in blood pressure probably do not take place. These facts account for the fixation of the specific gravity of the urine in this type of nephritis.

Patients with this type of disease may die from one of three causes:—uremia, decompensation of the hypertrophied heart, or cerebral hemorrhage. Edema is not an essential of this type as of the preceding form. When it does occur it results from decompensation of the heart and is essentially a cardiac edema, while that of the first type is distinctively a nephritic edema and has an entirely different mechanism.

It is thus possible to differentiate two distinct types of nephritis. In the first type the secretory portion of the kidneys is primarily damaged. The effect of this upon the functions of these organs is to increase the permeability of their filtration apparatus. There is no retention of waste products in the blood nor of dye in renal function tests, but a retention of crystalloids in the tissues, perhaps as a sort of compensatory mechanism, with resultant edema.

In the second type the secretory portion is not primarily damaged. The alteration in function is due to disturbances in the circulation through the arterioles with reduction in blood volume and blood pressure, and, therefore, of available filtration pressure, within the glomeruli. An increase in systemic blood pressure temporarily compensates for this condition but sooner or later retention of waste products in the blood occurs. The increased quantity of urine of low specific gravity is the result of inadequate absorption by the tubules because of interference with their nutrition.

In the treatment of these two types quite different methods would appear to be rational. In the first type a high protein diet should aid in restoring the depleted serum albumin. Reduction of water intake and of salt in the diet should aid in relieving the edema. In the second type a high protein diet would add to the nitrogenous waste products which the kidneys are already unable adequately to excrete. Normal or abundant water intake might aid in flushing out the accumulated waste products.

25 East Walton Place.

DISCUSSION

Dr. N. S. Davis, III (Chicago): I think this is a very convenient and satisfactory method of classification of kidney disease, which has been one of the most difficult things to classify so as to get any correlation between etiological factors or anatomical factors and the clinical course of the disease. I think we have been gradually coming to recognize this vascular type as a clinical entity because of its association with high arterial tension and oftentimes with disease in the heart, and that we have perhaps tried other terminology for the types in which secretory function has been interfered with in which we have had difficulty trying to make the clinical picture fit the anatomical findings.

I should like to ask if the picture in the kidney in the secretory type of disease does not reflect the conditions found in other organs somewhat in the same way that the picture in the kidney in the vascular type reflects the condition in other organs—that is, in neither case is the kidney itself primarily involved, but we are having the picture in the kidney of a process that affects the individual as a whole.

Dr. S. E. Munson (Springfield): I very much liked the Doctor's presentation of this subject on account of the simplicity of the classification.

I should like to ask the Doctor where he applies the nephroses in this classification and particularly, when speaking of the classification, the association between the vascular type and the secretory type, and if we may not have, of course, an involvement of both of these at the same time. In the involvement of the vascular types, particularly in the types of hypertension, there is a discussion as to whether this comes on primarily or whether it is usually secondary to the hypertension.

Dr. J. P. Simonds (Chicago): My paper was so brief that it was impossible to discuss many of the facts that might have been brought out.

In answer to Dr. Davis' question I think that the first type is due to the effect of some toxic or injurious agent of unknown origin and nature, and there certainly is no reason why parenchymatous organs, such as the liver or even the brain might not be damaged along with the kidneys. It happens, however, that most of the damage to the kidney is in the glomeruli. It seems

to me possible that the loss of albumin through the glomeruli may be due not to alterations in their lining endothelium but to changes in the epithelial covering. We know that practically everywhere in the body the endothelium of the capillaries is permeable to albumin because the lymph escaping from the various organs contains albumin. There are but three places in the body where endothelium of capillaries is closely approximated to epithelium, and in all three of those places normally no albumin escapes in the fluid which filters through. One is in the glomeruli of the kidney. In the case of the first type of nephritis, I am inclined to believe that damage to the epithelium covering the glomeruli, rather than to the endothelium, renders them permeable to albumin. That will answer, in a sense, the question in regard to nephrosis.

The nephroses under this simple classification would fall in the first group, but I agree with Bell who has shown that in lipoid nephrosis there is a damage to the basement membrane and epithelium and of the glomeruli.

In regard to the relation of high blood pressure to some of the manifestations of this first type of disease, of course there are two possibilities. One is that since this first type is probably due to some intoxication, it is quite possible for this intoxication to become active in kidneys that are already the site of vascular change or vice versa. In that way mixed types may develop. Again, if the patient with the first type lives long enough there will be sufficient destruction of glomeruli that ultimately retention and high blood pressure will result, so that the first type may, in very chronic cases, gradually assume many of the characteristics of the second type.

COMPLETE SEPARATION OF THE MUCOSA OF THE GALLBLADDER FROM OVERLYING STRUCTURES: REPORT OF A CASE

E. Starr Judd, M. D.,
ROCHESTER, MINNESOTA

and

Charles B. Puestow, M. D.,*
CHICAGO

Various changes are found in the wall of the diseased gallbladder, probably dependent on the nature, degree, and acuteness or chronicity of the infection, and somewhat on the circulatory changes in the organ. Organisms can be demonstrated in the wall of the diseased gallbladder more often than on the mucosa or in the bile.[1] It is generally believed that infection often enters the wall of the gallbladder by way of the blood stream or lymphatic structures.[2] The vascular walls may gradually thicken, and the lumens diminish in size or become completely occluded. Sometimes, especially in the presence of suppuration, gangrenous changes occur. These are most frequently localized to small regions of the gallbladder, but may involve the entire organ. There are a number of reports in the literature of gangrene of the entire gallbladder, with partial or complete separation of its



Fig. 1. Slough of entire mucosa of the gallbladder. It has been opened and the inner surface is presented.

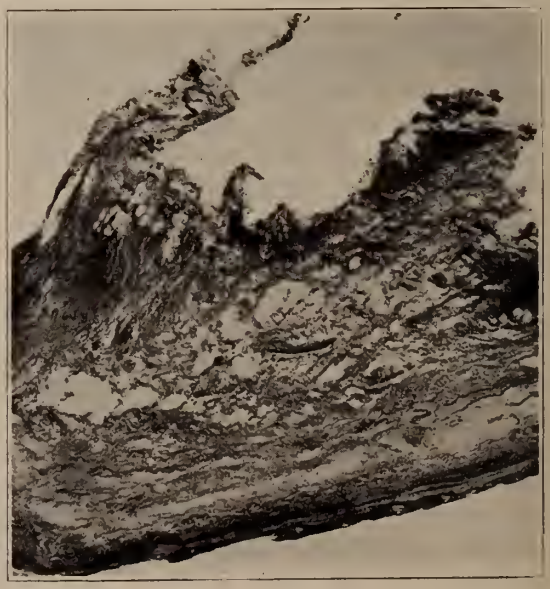


Fig. 2. A portion of the mucosa (x 17).

*Formerly a Fellow in Surgery, The Mayo Foundation, Rochester, Minnesota. Submitted for publication December 7, 1931.

attachments to the liver, leaving the gallbladder suspended by the cystic duct and its accompanying structures. Stavraki reported a case in which even the cystic duct had divided, and the entire gallbladder was found free in the peritoneal cavity.

Separation of the mucosa from the overlying coats of the wall of the gallbladder may occur in

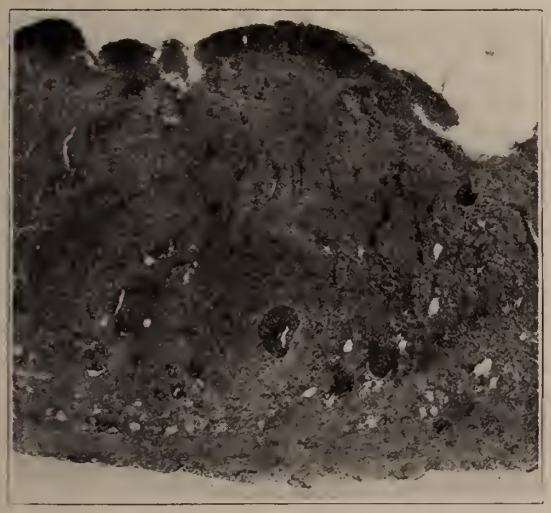


Fig. 3. The portion of the wall of the gallbladder which remained. Several blood vessels are visible; their walls are markedly thickened, and the lumen of one is entirely occluded. The muscular layers are replaced by fibrous tissues (x 19).

the presence of suppuration. However, it is not a usual finding, and no report could be found in the literature of complete separation of the mucosa of the gallbladder from the remainder of the wall. Therefore, the following case seems of sufficient interest to report:

REPORT OF CASE

The patient was an obese Italian woman, fifty-six years of age. There was nothing of importance in her family history or in her previous medical history. During the last two and a half years she has had recurrent attacks of severe pain in the right side of the abdomen, at the level of the umbilicus. In the early attacks, the pain radiated to the right lumbar region, but later it remained localized in the right side of the abdomen. The pain was prostrating and morphine was required for its relief. For one to two weeks following each attack there was residual soreness in the right side of the abdomen. At first the attacks occurred once every three to four months, but they increased in frequency until they averaged once a month, and sometimes they occurred at weekly intervals. The last few attacks were accompanied by an increase in temperature to about 102° F. She had had very little dyspepsia and never had been jaundiced.

General examination gave evidence of a firm mass in the right upper portion of the abdomen. There was very little tenderness. Studies of blood and urine gave negative results. Because of the history and physical findings, operation was deemed advisable without further study.

The abdomen was opened by an upper right rectus incision. There was a large abscess below the liver containing several ounces of thick, yellow-white odorless pus, and many gallstones. The mucous membrane was entirely separate from what remained of the gallbladder, and was floating freely in the abscess cavity. It was in the form of a complete sac, unbroken except in the region of the cystic duct. The remainder of the wall of the gallbladder was fibrous, thickened, and adherent to surrounding structures. A large portion of the wall was dissected out, leaving behind that portion attached to the surface of the liver. The choledochus and hepatic ducts were not explored. Split rubber tubes were placed for drainage and the wound closed about them.

Examination in the pathologic laboratory disclosed that there was a single slough of the entire mucosa. Histologic sections of this demonstrated the structures of the mucosa, with extensive gangrenous degeneration. The remaining portions of the wall of the gallbladder, which were removed, were considerably thickened and fibrotic. Histologic sections of these did not disclose the presence of the mucosa in any portion. The muscular layers were almost entirely replaced by fibrous tissue. The walls of the blood vessels were markedly thickened; the lumens were diminished in size, and some vessels were completely occluded. There were many gallstones; the largest was 1 cm. in diameter and the smallest, 8 mm. The pathologic diagnosis was subacute gangrenous cholecystitis on chronic cholecystitis and cholelithiasis.

The patient had an uneventful convalescence and was dismissed from the hospital on the fifteenth day after operation. Her wound continued to drain for several weeks and then entirely healed.

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DISEASE OF THE ORBIT*

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This is not intended as a highly technical essay but more as an aid to those who only occasionally come in contact with such conditions, conditions which are by no means rare in large clinics devoted to this branch of medicine.

In a consideration of the pathologic states of the orbit, one must at all times be able to thor-

*Read before Peoria City Medical Society, Oct. 20, 1931.

oughly visualize this bony truncated cone and the adjacent anatomic structures, disease of which frequently determines the etiology and symptoms of disease of this cavity. It is necessary to know the definite position of the different para-nasal sinuses and the results to be expected when infected or exerting pressure on the orbital contents.

In order to avoid detailed description of the sinuses and their relation to the orbit which can be found in any text-book on anatomy we will refer only to those structures that play a more important part in this study.

The orbital plate of the ethmoid labyrinth with its many cells, some of which may directly communicate with the orbit or may only be separated from it by a membrane or very thin layer of bone, forms the nasal wall of the orbit. The lamina papyracea is the most vulnerable part of this structure and is the most frequent point through which infections enter the orbit from the ethmoidal cells. The roof of the orbit is formed by the frontal bone separating this cavity from the anterior fossa of the skull and has in its upper nasal angle the frontal sinus. The outer wall is made up largely of the malar and greater wing of the sphenoid bones and is rarely the seat of disease. The floor of the orbit is formed by the roof of the antrum of Highmore or maxillary sinus and therefore may be influenced by abnormalities of this cavity. In the lower inner angle of the orbit is found the lachrymal fossa and sac which is frequently diseased and can be a source of orbital infection.

In the apex of the orbit we have many important structures and apertures for the transmission of vessels and nerves and in addition the proximity of the posterior ethmoidal cells and sphenoid sinuses which must be reckoned with in this discussion.

In general, it is best that the evidence common to most of the diseases be ascertained and grouped in regular sequence and the points of differentiation noted as follows:

Is the condition unilateral or bilateral; are inflammatory symptoms present or absent, is the intra-palpebral space (opening between the eye lids) enlarged or contracted, is the eye ball protruding or retracted, if so is it in the center of the orbit or pushed to one side.

If the condition is unilateral and attended with symptoms of acute inflammation, we must first be able to definitely rule out disease of the eye lids before we can say the orbit is involved. The tissues that make up the eye lids are of such character and susceptibility to infection and reaction that a differential diagnosis is sometimes very difficult. A harmless hordeolum (stye) or lid abscess may assume such proportions both physically and sensory that it will be utterly impossible to separate the eye lids for deeper inspection or palpation. It may at times be necessary to postpone a positive diagnosis for a day or two when the acute symptoms will have subsided sufficiently for proper inspection. The eye lids being now separated we can examine the state of the eye ball and ascertain if it is involved, freely movable or proptosed (pushed forward); is the conjunctiva edematous, infiltrated or just inflamed. The degrees of conjunctival injection or edema is almost entirely dependent on the kind of organism present, its virulence and the tissue reaction manifested. If we can conclude that the orbit or its contents is involved, we must next ascertain the source of infection. If the infection of the orbit is due to a penetrating wound from the outside this can be readily determined by the history and the evidence of the point of entrance of the foreign body. If we can exclude a penetrating wound, we may reasonably say that the infection is from the adjoining sinuses. Metastatic infection is comparatively rare and that due to the tubercle bacillus or the spirocheta pallida does not produce the acute symptoms present in such a picture.

In the absence of acute inflammatory symptoms the diagnosis may or may not be difficult, but an immediate diagnosis not being urgent we may study the case and its history at our leisure. Here again must we first determine the position of the eye ball in the orbit, whether it is proptosed directly forward or to one side, is the eye ball replaceable or not replaceable. If the eye ball is pushed directly forward and is not replaceable we may assume that a retro-orbital mass is present and of such consistency that does not permit of reduction by pressure. If the eye ball is replaceable we may say that the mass is of such consistency that pressure will reduce it, as in ethmoidocele, cephalocele, angioma, etc.

If the eye ball is pushed forward and eccentrically or purely to one side, the position of the eye ball in the orbit will determine from what

direction the force is being applied. Inspection of this region will usually give one the information necessary for the proper diagnosis of the origin of this abnormal state.

The ethmoidal cells more frequently involved in such cases being usually posterior to the equator of the eye ball will naturally push the eye forward and downward and outward. The frontal sinus malformation or disease will push the eye downward and outward, whereas maxillary sinus pathology will push the eye upward and forward. Thus the position of the eye ball in the orbit and the state of the tissues involved is of much value in such a determination.

Acute Orbital Cellulitis is more frequently due to infection, secondary to suppuration of the ethmoidal cells. It may be due to a penetrating wound and infection or occasionally may be due to an acute frontal sinusitis, but in the latter very definite symptoms of disease of that cavity are present. If it should be of metastatic origin the symptoms and treatment are still the same. Disease of the adjacent sinuses can be ascertained by rhinoscopy and x-ray plates. The symptoms consist of marked redness and swelling of the eye lids, injection and edema of the conjunctiva, a degree of proptosis, sometimes limitation of motion of the eye ball, very painful especially to palpation, temperature is usually not high, rapid pulse, preceded by chills and the preauricular glands may be palpable.

Treatment is intra-nasal and intra-orbital, surgical and non-surgical. The rhinologist prefers operating on the sinuses involved, the ophthalmologist usually favors direct orbital surgery. To this writer the orbital route seems to be the only logical method; it is simple and not attended with the dangers of the nasal route which I have seen followed by meningitis, intracranial abscess and death. In the stage of orbital cellulitis before abscess formation the therapy must be limited to paliative measures locally and intra-nasal. In the abscess stage we usually find the pus located at a level below that of the sinus involved, therefore drainage is at a disadvantage. In addition we have the danger of infection traveling along the peri-neural spaces of the olfactory nerve fibers with ethmoidal surgery during the acute stage. The intra-orbital route is simple and not attended with these dangers and the pus is drained from the lowest level. A general anesthetic is usually necessary, the lids are widely separated and incision made through the conjunctiva between the insertion of the internal and inferior recti muscles. This incision may have to be carried quite deeply, but attended with no danger to one familiar with the anatomy; forceps are then passed into the wound and the blades are separated when a creamy yellowish pus usually gushes out. A rubber tube or sheet drain is inserted into the wound for drainage and a voluminous dressing applied. Subsequent treatment consists of maintaining drainage locally and non-surgical attention to the sinuses through the nose.



Fig. 1. Acute Orbital Cellulitis with Abscess formation.

Emphysema of the Orbit is usually due to trauma as the result of an external injury or manipulation, following the use of instruments for the purpose of irrigating the maxillary antrum or the lacrymal sac and the subsequent blowing of the nose. The latter is brought about by the instrument passing beyond the intended area into the subdermal spaces and on blowing the nose the air is forced under the skin. When due to external violence it is usually associated with fracture of the nasal or lacrymal bones. The symptoms are quite marked but not as a rule associated with pain. The skin in the region of the orbit may become intensely swollen. The diagnosis is readily made by the crepitus on palpation. Treatment resolves itself into topical applications and avoidance of blowing the nose.

Periostitis of the Orbit when due to trauma usually involves the rim of the orbit. The history, time of onset, symptoms of acute pain on pressure and the absence of marked symptoms of infection will be sufficient for a diagnosis. The duration, if uncomplicated, will be from a few

days to several weeks. If it persists for a longer time we may suspect an underlying cause of more serious character such as tuberculosis or syphilis.

The tuberculous and syphilitic types usually involve the deeper structures and more frequently manifest themselves in some degree of proptosis of the eye ball with eventual fistulous opening with little or no tendency to heal.

The differential diagnosis is as a rule not difficult in the presence of a fistulous tract. But before that stage is reached it is usually attended with some degree of proptosis, the eye ball is not replaceable to the same degre as in the normal case, acute symptoms of inflammation are absent and the history is very vague and indefinite. Tuberculosis is more frequently seen in the very young or in the very aged in the advanced stage of pulmonary tuberculosis, whereas syphilis is more frequently found between ages 20 and 40. X-ray plates and serologic tests are of much value in the differentiation. In the hands of one thoroughly familiar with the anatomic structures involved, it is a simple matter to pass a fairly large caliber needle with a syringe alongside of the eye ball deep into the orbit and attempt to withdraw retained fluids. If due to tuberculosis evidence obtained is very convincing if one strikes the abscess cavity; in syphilis no pus will be found but occasionally one may meet some liquified detritus. In the presence of tuberculosis, surgical interference is indicated, in lues medical treatment must be resorted to.

Thrombosis of the Cavernous Sinus is fortunately quite rare and yet may confront one the very next day. It is not difficult of diagnosis when once seen. It is most frequently due to an extension of a thrombosis of the petrosal sinus as a part of the picture of a lateral sinus thrombosis, the latter usually due to caries of the petrous bone. It may also follow an orbital cellulitis or a metastatic infection. The picture consists of a proptosis of the eye ball, marked venous stasis both externally and ophthalmoscopically; temperature of the rapid rise and fall variety, chills, pain and intra-cranial symptoms. This lasts for a few days when the other eye may become involved if death does not intervene before.

Pulsating Exophthalmus. The name fully describes the condition—it is unilateral, the eye is proptosed and on palpation a distinct thrill is felt. If a stethoscope is applied to the eye lid covering the eye ball one hears very plainly, a bruit which can be heard out to the lateral side of the skull. If pressure is applied with the finger to the internal carotid artery, the pulsation, bruit and thrill ceases. Vision may become impaired and definite tortuosity of the vessels of the retina is to be noted. Treatment consists of ligation of the internal carotid, which must be done with great care.

Exophthalmic Goiter or Basedow's Disease. The diagnosis of this disease in the typical case is of course not difficult, but with the attention and intensive study this disease has received of late years, types of cases are now recognized as belonging to this classification which were not so diagnosed years ago. The typical case with its bilateral exophthalmus, Von Graeffe, Moebius, Stellwag and Dalrymple signs, tachycardia, tremor, etc., are common. In the unilateral cases with a low metabolic rate the diagnosis is at times very difficult and may have to be differentiated from an orbital cyst, neoplasm and other similar conditions. Such cases at times will require intensive study over a long period before a satisfactory course can be decided upon and then a guarded prognosis as to the exophthalmus should be advanced.



Fig. 2. Typical Case of Exophthalmus Goiter.

As a result of the enthusiasm for thyroid surgery, which unquestionably has been of much benefit to mankind, there has developed an ophthalmic entity which is a source of much worry and disappointment to the surgeon. I particularly refer to the exophthalmus that takes place some time after the thyroidectomy and to those cases in which the exophthalmus was present before surgery and instead of being arrested or improved goes on to an increased proptosis. Some of these cases become so marked that ul-

ceration of the cornea follows and results in loss of the eye balls. These cases are not rare at this time and must be guarded against in the most expert hands. It would appear from our present knowledge on this phase of the subject that very little is known just why it takes place and in what type of case it will appear. The ophthalmic problem may be very serious and even in the milder cases requires the utmost diligence to control corneal ulceration. The cosmetic effect though not serious is very annoying and may in some cases be controlled by plastic surgery where medicinal measures have failed.

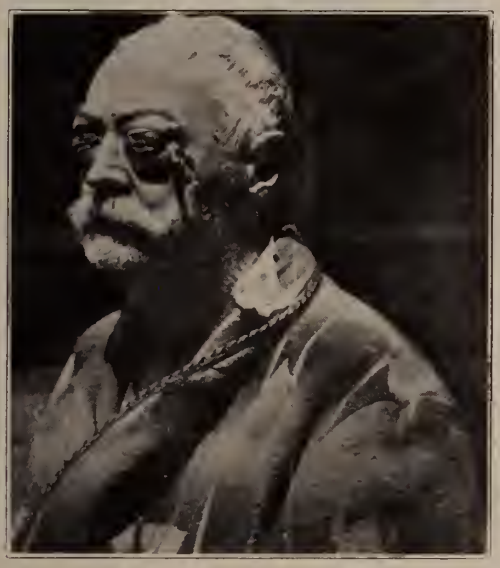


Fig. 3. Serious type of Exophthalmus Goiter. Exophthalmus developed some time after thyroidectomy.

I have recently seen a case of acute bilateral glaucoma develop in a young man who a few days previously had had his thyroid removed. The condition was watched for about two weeks and had to be operated on for glaucoma owing to the maintenance of a tension of 50 by Schiotz and the inability to reduce this intra-ocular pressure.

Tumors of the Orbit. A diagnosis of this condition is only possible if the intra-orbital growth assumes such proportions as to produce symptoms, which will almost be limited to displacement of the eye ball from its normal position. The eye ball may be pushed forward, downward, upward or laterally or combinations of these positions, e. g., downward and outward, etc. One must first ascertain if the deplacement is the result of disease as in hyperthyroidism or is it mechanical, that is due to a force, e. g., tumor or cyst which by its growth is pushing the eye ball from its normal position. An eye ball normally can be pressed backward into the orbit for some distance, but if a hard or semi-hard mass is present back of the eye ball, the ability to push the eye ball backward will be limited; the degree and character of this resistance will indicate the character and size of the mass in the orbit. As a rule tumors and cysts of the orbit are unilateral, the exception is rare. The direction of the displacement of the eye ball is important to the diagnosis of the type of the mass producing the displacement and the approximate origin of the mass. Thus an osteoma of the frontal sinus will displace the eye ball downward and outward, whereas an osteoma or cyst from the ethmoidal cells will displace the eye ball downward, outward and forward. A soft tumor or slowly growing tumor originating in the apex of the orbit will most likely push the eye ball directly forward. A tumor or cyst originating in the maxillary antrum will push the eye ball upward and propably forward. Limitation of motion of the eye ball is also frequently noted and may be the result of marked displacement or involvement of the extrinsic eye muscles. Where the tumor originates outside of the eye ball the fundus findings are usually limited to interference with the circulation or that due to pressure on the optic nerve with its associated symptoms of visual disturbance.

Cysts of the Orbit are of several kinds; probably the most common types met with in our clinic is the ethmoidocele. This usually appears in the region of the lamina papyracea and will displace the eye ball outward and forward if it is permitted to progress to such proportions. In some cases I have seen such a cyst present itself in a manner so as to give the appearance of a lacrymal sac involvement, but when dissected out it is found to be much deeper and originating from the ethmoidal cells. They are easily palpable and can be aspirated quite readily for diagnostic purpose.

Dermoid Cysts are usually found anteriorly in the upper outer and upper inner angles of the orbit, but must be differentiated from a cephalocele or hernia cerebri, which is more frequently found in the upper inner angle of the orbit. The dermoid may be dissected out quite safely without danger, or may be left alone. Its only indi-

cations for removal are its position and the cosmetic effect desired.

Cephalocele or Hernia Cerebri most frequently appears in the upper inner angle of the orbit and is due to a cleft between the frontal and ethmoidal bones. Recently I saw a case of the most pronounced type with a cleft in the roof of the orbit that was easily palpable and confirmed by x-ray plates. The latter type of case is very rare and is attended by marked intra-cranial symptoms under the slightest movement of the head from the erect position. In the more common type the symptoms are usually mild and the one complained of most is the disfigurement.

Angiona is the result of a new development of blood vessels in the orbit and is very difficult to differentiate from aneurysmal dilatations. The cavernous type is more serious and may assume proportions and produce symptoms that are very annoying and disfiguring. They are best left alone if the symptoms are not marked. These symptoms consist of proptosis, feeling of fullness



Fig. 4. Ethmoidocele with Lachrymal Sac involvement.

in the orbit and disturbances of vision which are aggravated by muscular effort and the emotions. Angiomata and cephalocele can be readily reduced by pressure or exaggerated when the patient is allowed to lower his head, cough or strain. Treatment in this type of cases which is surgical must be under the most aseptic conditions.



Fig. 5. Sarcoma of the Orbit.

The Neoplasms consist of the malignant and non-malignant types, the former unfortunately predominating. The clinical differential diagnosis is not easy and at times impossible. The history, palpation and clinical observation as to the rate of growth of the mass are important. In the rapidly growing tumor there is in addition to the displacement of the eye ball evidence of dilation of the veins of the face in that region. The one redeeming feature in the differential diagnosis is that the malignant type more frequently originates within the eye ball and breaks through the sclera into the orbit. Therefore the history of such a type or the locating of the tumor within the eye ball helps in the diagnosis. In the young, that is, under ten years of age, the most frequent type met with is glioma, in the adult the sarcomata predominate. Of the type originating extra-ocularly the site of origin may be from the bones, periosteum, muscles, connective tissues, etc. Primary carcinomata in this region are very rare, and when they do appear usually originate from the lacrymal gland.

Secondary formation of malignant tumors in the orbit may occur by extension from adjoining tissues or by metastases.

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NON-VENEREAL PROSTATITIS*

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I wish to go on record as saying, that not every case of prostatitis is of venereal origin and that every seat of focal infection is not in the tonsils and teeth, but very often found to be in the prostate gland where the majority of general practitioners fail to examine, either from negligence or ignorance, the prostate gland as being a seat of infection.

The older text-books said nothing about the prostatitis other than venereal. The more recent text-books do not stress it as being of much importance.

Outside of the G.-U. specialist or urologist, many doctors who have taken the trouble to make a prostatic smear, make only one, while the G.-U. man will make at least three before he will rule out the prostate gland as a focus of infection.

The history of never having had a previous gonorrheal infection should make no difference to the doctor; he should make an examination of prostatic secretion when seeking a focus of infection.

Greenberger of New York claims 25% of the prostatitis cases are non-venereal. Culver of this city claims 20% are non-venereal. Theo. Baker in a writing quotes Hugh Young as claiming 25% non-venereal. Guiteras and Cabots' text-books of 1926 do not mention non-venereal prostatitis. Randall in writing on abscess of the prostate, reports 16 cases, eight with G. C. infection, and eight non-venereal. Cunningham in his year book of 1925 mentions a prostatitis which is focal in character and may arise from organisms in the blood and urine. Wolbarst in his text of 1927 mentions a type of non-venereal prostatitis found at the incipiency of an acute G. C. infection in young men who never before suffered from G. C. But he says nothing regarding the prostate as a focus of infection.

In Tice's Medicine he mentions infection of the prostate gland and says they are most commonly gonorrheal in origin, but may be due to streptococcus or tuberculosis.

Culver concludes that other organisms such as Staphylococcus albus and aureus, pneumonicoccus, streptococcus and colon bacillus may be the exciting cause of chronic prostatitis and vesiculitis and a chronic infection of these may be responsible for sub-acute and chronic arthritis.

Barney and Fuller noted that many arthritic cases have been cured or improved by draining a genito-urinary focus of infection. Lowsley and Kerwin text states that the prostate gland is undoubtedly one portal of entry for septicemia and when the gonococcus is the offending organism, it is practically always the original focus and further states that the prostate is regarded as a very frequent focus of infection and second only to infected tonsils, as a cause of arthritis, and may be responsible for endocarditis and neuritis.

Von Lackum reports 40% of his cases were non-venereal, and that dental and tonsillar infections were responsible for many of these cases. Deneen agrees that the prostate and seminal vesicles represent the most neglected fields in medicine.

Anatomy: The prostate is an irregular, glandular organ, situated deeply in the pelvic cavity below the bladder, and is covered by an fibromuscular sheath. A sulcus divides it into two lateral lobes, and a so-called median lobe may develop in old age. The size varies as to age. Rudimentary in early life, increases in size rapidly to the age of puberty and reaches its full development at from 20 to 25 years of age, and seems to remain stationary to the age of 40 or 45, then may start to grow larger and in 60 or 70 we have the so-called senile hypertrophy.

The function of the prostate is genital, its secretion mixing in the act of ejaculation and also of endocrinological value in that its internal secretion stimulates testicular function.

The organisms found in non-venereal prostatitis according to Herrold of this city, in order of their frequency are: Staphylococcus albus, diphtheroids, strepto viridans, staphylo aureus, hemolytic strepto and colon bacillus. He mentions neither pneumonicoccus or typhoid. I think the colon bacillus is the most predominating.

Diagnosis: The diagnosis of non-venereal prostatitis is made by palpation and prostatic smears and a study of the urine. On palpation we may find an indurated mass on one or both lobes, which may or may not be painful, and usually not compressible. Or you may find an

*This article was read before the Medical Staff of the Norwegian-American Hospital, Chicago, Illinois, Nov. 20, 1931.

enlarged boggy prostate with little or no pain. Very often you will find no abnormalities at all.

The prostatic smears are the most important and must be examined thoroughly for bacteria. And again, one smear is not enough, but a study of from 3 to 5 smears at different times must be made and then sometimes the bacteria are not found until a provocative stimulation is used, such as a Kollman dilator, followed by an instillation of silver nitrate, 2 or 5%. If secretion cannot be obtained after several massages then the urine voided after massage should be compared with an ordinary specimen, and if the urine after massage contains more pus cells than the ordinary specimen it is quite safe to make a diagnosis of a chronic prostatitis.

Symptomatology: This chronic infection of the prostate may be there for several years before you may have any symptoms, or any signs that would lead you to suspect some prostatic involvement. The local symptoms may be very slight, there may be some urethral discharge, but it is so slight the patient hasn't noticed it, but he will tell you, he does notice on straining at stool a discharge, which is a prostatic secretion.

There is aching in the groins, testicles or perineum and some low backache. Sexually we find weak erections or none at all, premature ejaculation and itching around the anus and perineum, which is quite annoying.

In the blood findings you will usually note some leucocytosis as in any chronic infection.

The urine may be cloudy, but will not always have a pyuria; there may be some few pus cells, not always.

The nervous symptoms are very important, in that you are dealing with a patient made nervous by a chronic infection. He will have psychic impotence, loss of pep, worry, melancholia and always a depressed state of mind.

You will find the neuralgias, myalgias and different forms of arthritis which are dependent upon the prostatic involvement. The secretions expressed will contain any of the bacteria, and more especially the Staphylo and colon bacillus.

On account of his nervous state and his fatigue this class of patient usually falls into the hands of a neurologist who in turn overlooks the prostatic gland. If the internest sees him he will give him a most careful examination with x-rays of teeth and sinuses, blood and stool examinations but will forget all about the prostatic gland as a seat of infection.

The prostatorrhea that always occurs in chronic prostatitis does no harm and in no way impairs the sexual function or shortens the sexual life. (Dr. Keys says in his latest text, "I have lived long enough to know that.")

Latent prostatitis is a definite clinical entity and without provocative treatment many cases are undiagnosed, and in others a maximum relief is not attained.

Prostatic focal lesions are very common and no investigation of foci in the male is complete without a thorough examination of the prostate gland.

Treatment: The first and most important is to clear up the infection elsewhere, tonsils, teeth and sinuses. Prostatic and vesicle massage, gently at first and gradually increasing pressure to meet the patient's tolerance. Irrigations or instillations of some mild silver salt. Passing of full sized sounds every four or five days. If strictures should be found they must be ironed out. These treatments are best given in courses of about 15 to 20 treatments then about 4 to 6 weeks' rest between courses. Hot sitz baths are of aid, but should not be taken too often to weaken the patient.

Electrical diathermy may be used if necessary, or the electric prostatic heater devised by Bransford Lewis.

Intestinal hygiene must be observed and a diet of fruit and fruit juices to keep the bowels open, and for alkalinization if needed. The use of drastic purgatives, alcohol and highly seasoned foods must be avoided.

Vaccines are of no special value, as each prostatic massage forces some toxins into the blood stream.

Sexual excesses and irregularities must be forbidden, but a regular sexual life does no harm; sexual hygiene must be adhered to however.

CASE REPORT

Case 1. Mr. B., shoe merchant, married, two children. No history of previous venereal infection. About one year ago he began complaining of severe pains in the lumbar region, not relieved by lying down, not radiating, and no urinary symptoms. The pain was so severe and lasting he called in medical aid, causing him to have teeth x-rayed with one extraction, tonsils removed, sinuses x-rayed by a specialist and found negative. After taking plenty of medicine and heat treatments, and a series of mud-baths he was still suf-

fering. On examination, I found urine clear and negative. On prostatic examination I found an indurated mass the size of a small pecan on the left lobe and the expressed secretion showed colon bacillus. After a series of massages and soundings for a period of eight weeks, he is free from pain and back to work. He also received ten diathermy treatments.

Case 2. Mr. P., janitor, married, three children. Denies ever having a venereal infection. Eight months ago he began having a severe neuritis involving the sciatic area. The pain was so intense he had to stop work and at times had to have an opiate. Two teeth were extracted, tonsils were removed, nasal sinuses x-rayed with negative findings, but the neuritis persisted. On examination I found a clear urine with negative findings, but on prostatic examination, I found an indurated mass on the right lobe about the size of a walnut and quite painful. The prostatic smear showed colon bacillus, and after a series of 6 diathermy treatments, massage and soundings for two months, his neuritis has entirely disappeared; he has gained in weight and is back at work.

Summary:

1. Because of the enthusiasm that has prevailed over the teeth and tonsils as infected foci, the prostate and seminal vesicles as sites of foci of infection have been entirely overlooked, until just recently.

2. Non-venereal prostatitis is not stressed sufficiently in the text-books.

3. The diagnosis is most important and the examination of the secretion means more than palpation of the gland.

4. The symptoms may be taken for several diseases and there is a variety of symptoms.

5. Treatment may be satisfactory but requires lots of time and patience.

6. Infected foci in other organs must be removed.

7. Sexual hygiene must be adhered to.

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THE OLD AND THE NEW IN MEDICINE AND SURGERY*

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In the field of medicine and surgery, as in other avenues of effort, we are reminded that King Solomon once said that there is no new thing under the sun. Hundreds and thousands of years ago, our medical forefathers, hampered as they were by their relative ignorance of anatomy and physiology, laid the foundation stone upon which, during the past hundred years or so, there has been builded an edifice, buttressed by science, but upon which the coping stone has yet to be laid.

From the day of primitive people up to the advent of anesthesia and asepsis, surgery was almost entirely wound surgery. That there was a fairly good knowledge of medicine and some surgery long before the time of Hippocrates (460-370 B. C.) is proved by the fact that he, himself, wrote a treatise on ancient medicine. In fact, records which have been found show that a fairly competent knowledge of medicine and surgery existed in Babylon and Nineveh. The Ebers Papyrus of the period of 1500 B. C. and the Edwin Smith Papyrus, which is older, mention disease in many forms, incidentally malignant disease, as well as certain drugs used today and instruments, such as the cautery and forceps. The principle of our modern psychotherapy had its inception in the therapeutic superstitions of primitive man and the earlier civilizations.

Thousands of years ago books on disease were written in China, and it is recorded that the Chinese knew of inoculation against smallpox. They believed that the skin of a toad had a cardiac stimulating action which, to later generations, seemed absurd. But some twelve years ago, Dr. John J. Abel, Professor of Pharmacology of the Johns Hopkins University School of Medicine, succeeded in obtaining the cardiac stimulant present in toad skin, in crystalline form.

Evidently, blood letting is as old as the immemorial hills. Hippocrates advocated it in the

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acute infections. Because of the abuse of venesection in the latter part of the eighteenth and the first half of the nineteenth century, it was practically abolished for a time, but its judicious and timely use has once again been reestablished.

In the code Hammurabi (2500 B. C.) there are references to medical and surgical subjects. The ancient Hindus are believed to have been the pioneers in plastic and reparative surgery, and they used the actual cautery very largely. Ancient India had an elaborate hospital and nursing organization.

But all the ancient civilizations only led up to that of Greece, who made a cult, almost a religion of health, beauty, and physical fitness. Esculapius was the tutelary deity of the healing art, and all medicine of the early Greeks was in his hands. But Hippocrates, to a large extent, caused the separation of the priesthood from medicine. He was the first to take histories of cases, to notice and tabulate symptoms, examine the urine, complexion, temperature, respiration, and to employ auscultation. He advocated exercise, fresh air, and sunlight, the use of baths, massage, cold effusions, and deprecated the habitual employment of purging drugs. Today we are reverting to his teachings, i e., keeping the body fit to prevent disease. His treatment of fractures, dislocations and wounds was essentially as that of today. He is said to have cured a case of rheumatism by the extraction of a tooth, and was the first to differentiate disease. He taught that accurate observation is the sheet anchor of clinical diagnosis.

Aristotle of Greece created the beginning of zoology, comparative anatomy, and embryology.

In the Old Testament, medical matters are concerned largely with social hygiene. The cause of the spread of bubonic plague was foreshadowed in the Sixtieth Chapter of Exodus: "In the midst of the land mice were brought forth, and there was a great and deadly destruction in the city."

With the deterioration of Greek civilization, three hundred years after the death of Hippocrates, Greek medicine emigrated to Rome, and the principles of the Father of Medicine were somewhat revived by Galen (131-201 A. D.), whose dogmatic views, however, set back the march of progress in medicine and surgery many centuries. Ours is not the first age of specialization, for Galen mentions oculists, aurists, dentists, lithotomists, gynecologists, dermatologists and herniotomists.

During the Greco-Roman era of medicine, a layman, a Roman patrician, Celsus, wrote a full account of heart disease, described the subject of cancer, and was the first to recommend the use of nutritive enemata.

The most profuse writer of this period on medicine, natural history and allied subjects, was Pliny the Elder (23-79 A. D.). He referred to intestinal toxemia, and recorded that the sacred ibis of the Egyptians gave themselves enemata by introducing water by their beaks into "that part by which it is especially necessary for health that the residuous food should be discharged."

Surgical instruments abounded in Ancient Rome, and operations for hernias and cataracts were done; Cesarean sections were performed. Celsus, Leonidas of Alexandria, and Galen described plastic operations on the face, mouth, nose and ears.

Soranus of Ephesus (98-138 A. D.) introduced the obstetric chair and podalic version in place of using instruments in difficult labor.

The medico-chirurgical treatise of Abulcasis (986-1013) the greatest of the Arabian surgeons, was the leading text-book for generations. The first of these books deals entirely with the actual cautery.

At Salerno, in the medieval period, women were active in medicine, and an attempt was made here to bring medicine under state control. In this same period, the "Dark Age" of medicine and surgery, Theodoric of Luca (1205-1296) and Henri de Mondeville (1260-1320) were active pioneers of asepsis.

During the Renaissance (1453-1600) many remarkable discoveries were made. Paracelsus (1493-1541) combatted the doctrines of Galen. proclaimed his belief in asepsis, introduced mercury in the treatment of syphilis and founded chemical pharmacology. Vesalius (1514-1564) so interpreted anatomy as to make it possible for surgery to relieve deep seated injuries and diseases. Leonardo da Vinci (1452-1519) considered the greatest artist and scientist of the Renaissance, was the founder of iconographic and physiologic anatomy. Paré (1510-90), among other advances, practiced débridement, which was largely employed during the World War, was probably the first, according to Dr.

Howard Kelly, to recognize flies as the transmitters of disease, introduced and reintroduced many operations, permitted nature to do her own work instead of continuing the practice of using boiling oil in the treatment of wounds, brought reforms into the practice of obstetrics, and invented a large number of surgical instruments.

It is obviously impossible to mention all who helped build modern medicine and surgery, but there was one who explored an unknown region —Jerome Carden (1501-1576), the first competent psychoanalyst, as well as the first intelligent delver into biologic phenomena. The germ of the Freudian doctrine is contained in the theory of the distraught psyche of Stahl (1660-1734). The North American Indians had some conception of this, for one of the Jesuits working among them, wrote in 1610: "They believe that there are two main sources of disease: one of these is in the mind of the patient himself, which desires something and will vex the body of the sick man until it possesses the thing required. For they think that there are in every man certain inborn desires, often unknown to themselves, upon which the happiness of the individual depends."

Endocrinology is not a new subject for, from remote antiquity, man has been aware that the gonads exert an influence on the development and structure of the body. In 1779, Wilmer of Coventry, England, clearly defined a bronchocele and recognized the relationship between intestinal stasis and certain types of goiter, for he urged those so afflicted to "take a vomit and a purge during the increase of the moon."

Different types of lunacy and suggested treatment were described by Bartholomaeus Anglicus in the middle of the thirteenth century.

Fra Paolo Sarpi (1552-1623), the great Venetian astronomer, mathematician, anatomist, while examining the specific gravity of the blood, discovered by pure reasoning, the valves of the veins, and foreshadowed by some years Harvey's (1578-1657) discovery of the circulation of the blood.

Malphigi (1628-1694), the greatest of the microscopists, with Redi (1626-1694) prefigured, by the use of the compound microscope (the discoverer of which is not known) modern bacteriology. In this period, Sydenham revived the clinical teaching of Hippocrates.

In the Eighteenth century, the Hunters, William (1718-1783) and John (1728-1793), were largely responsible for laying the foundation of modern surgery.

The Nineteenth century brought the discovery of anesthesia, asepsis and that puerperal fever is contagious.

Anesthesia was known to primitive peoples and the ancients, although none of the drugs used was apparently sufficiently effective. It was mandragora, undoubtedly, which was offered to Christ on the Cross, and which he refused. Dioscorides (54-68), the originator of the materia medica, mentioned this drug. Shakespeare mentioned it in several of his plays. In 1799, Sir Humphrey Davy (1788-1829) discovered the anesthetic properties of nitrous oxide, which holds such a large place in the field of anesthesia today.

Less than one hundred years ago, Oliver Wendell Holmes (1802-1894) and Ignaz Phillipp Semmelweiss (1818-1865) proved that puerperal fever is contagious, and thus saved the lives and invalidism of countless women.

The principles of antisepsis and asepsis were found and demonstrated by Pasteur, and these principles Lister had the genius and foresight to recognize and apply to the treatment of wounds.

The advance or retrogression of medicine and surgery will depend wholly upon the advance or retrogression of civilization. Hippocrates was the guide to modern medicine, and Celsus, Paracelus, Vesalius, Paré, Sydenham and the Hunters were his followers. It may be that progress in medicine lies in biochemistry, and that the practice of medicine will be preventive rather than in curative or remedial methods. Modern medicine, the new, has learned much from the medicine of Hippocrates, the old, and much more can still be learned. Both in medicine and surgery there are still great problems to be solved. The achievements of the past, through the expenditure of effort and even life itself, have wrought magnificent benefits in the healing art to the human race. We surely can confidently march on to other victories!

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THYROIDECTOMY

WITH SPECIAL REFERENCE TO FACTORS CONCERNING MORTALITY

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The word "Thyroidectomy" is a surgical term and concerns itself more particularly with technic. The specialist is usually inclined to stress technic. It has always appeared to me that there were other factors which were of equal or even greater importance, and that to technic must be added judgment and preoperative preparation.

By judgment I mean the arrival at a conclusion as to the best procedure to follow, and to select the opportune time for carrying out that procedure in a way that will insure desired results.

Certainly thyroidectomy was an extremely hazardous procedure until preoperative treatment taught us to prepare the patient, and until the surgeon had developed a judgment which enabled him to select the patients when they were safe for operation, and taught him how much or how little to do.

I am going to enlarge the scope of my paper and include a discussion of the *reduction of mortality in surgery of the thyroid gland.* This will give me an opportunity to review all the factors concerned in a thyroidectomy instead of technic only.

The ideal in thyroidectomy should be no deaths, or at least a mortality of not more than one-half of one per cent. A thyroid death following operation is in practically every instance due to an error of judgment rather than some error in technic. The technic has been so definitely standardized that any surgeon of general experience should be able to do it. A perfect technic, however, will not of itself keep down his mortality. He can achieve the ideal only if he has a definite and detailed knowledge of preoperative or medical preparation, and uses it conscientiously in every case; *and secondly, if he has developed a correct judgment as to when to operate, and how much or how little he can safely do.* Unless he does acquire this judgment, and it can be acquired only as a result of clinical experience, his surgical technic may be perfect and his mortality remain high. The reduction of mortality is essentially a medical problem in the sense that what is done before operating determines the outcome.

There are three main factors concerned in the reduction of mortality. *They are in the order of their importance, medical or preoperative preparation, judgment, and technic.*

Before taking up the discussion of these three factors we must have a working classification of thyroids. The classification becomes the basis of the philosophy of treatment. For our purpose the only practical classification is to divide them into non-toxic and toxic cases. This classification is a clinical one only, is simple, and is the basis on which treatment rests.

The non-toxic patient requires treatment only because of malignancy, pressure, or for cosmetic reasons. When any treatment is needed it is always surgical.

Every toxic patient is surgical until proven otherwise. The medical treatment will decide whether it is or not, and in this connection it is well to remember that all surgery can hope to do is to remove tissue which is hyperactive. It cannot, so far at least, remove the cause of the hyperactivity or the altered secretion. Surgery is a form of symptomatic treatment. The hyperactivity is only one part of the symptom complex.

When a patient presents himself with an enlargement of the thyroid gland which is nontoxic, the examination must determine whether that enlargement is due to malignancy, whether it is producing pressure, or whether there are cosmetic reasons for its removal. The conclusions determine the treatment. If none of these factors are present no treatment is required.

If, however, the patient has symptoms of thyroid intoxication, with or without palpable enlargement of the gland, the question then is; what treatment, medical or surgical, offers the safest and nearest restoration to normal? This question will be correctly answered in every instance if the medical or preoperative treatment is carried out conscientiously, and if proper judgment is used.

The size of the gland does not indicate the treatment which will be the most successful. Some of the smallest glands are the most toxic, and the largest ones may not be toxic at all. Every surgeon has been surprised at the size of the gland after removal compared to its esti-

mated size during clinical examination. There are no reliable laboratory tests which definitely indicate whether surgical or medical treatment is best. *Nothing but clinical experience, and judgment based on treatment, is of much value.* The first thing to do before beginning treatment is to make a complete physical examination, including all the indicated laboratory tests. Remember, hyperthyroidism is a symptom and not a disease. Nobody knows what it is definitely due to, and in very few patients is it due primarily to the disease of the gland itself. The sympathetic system and the endocrines are involved as etiological factors. Hyperthyroidism is common in the psychoneuroses. Tuberculosis presents a picture closely resembling an early thyroid. Ovarian dysfunction and hyperthyroidism are closely associated. A diabetic may have a toxic goiter, and a toxic goiter may have a glycosuria which disappears when the hyperthyroidism is corrected. Varying degrees of increase in function are common in pregnancy. An active syphilis may be accompanied by a hyperactive thyroid. The acute infections, pneumonia for instance, may be accompanied or followed by an increase or perversion of function of the thyroid.

Difficulties of adjustment such as occur at the stress periods in the life of the individual at puberty, adolescence, and the menopause, and which are always associated with changes in the internal secretions, may be accompanied by a hyperthyroid toxicosis. What I wish to emphasize is the importance of a complete knowledge of the physical and mental condition of the patient before beginning treatment. The failure to recognize the importance of a complete knowledge of the patient is responsible for the fact that the Americans, who are particularly enthusiastic over surgical results, claim 40 to 90 per cent cures. I am sure those of us who review our surgical cases not only immediately after operation but one, two, and three years later will agree that eight per cent of complete restoration to normal is more nearly correct.

I have made the statement that preoperative or medical treatment determines whether or not the patient should be operated upon. Medical preparation for operation has already shown that at least thirty per cent operated upon five years ago did not need to be operated upon. The facts justify the statement that in the future fewer will be operated upon, in fact we will finally be forced to the conclusion that the mere enlargement of the thyroid gland accompanied by a hyperfunction does not of itself mean the thyroid must be removed. Thyroidectomy is repeating the history of oophorectomy twenty years ago, and of tonsillectomy in the immediate past.

Medical treatment by making the operation safe increased the number done. It is redeeming itself by teaching us that operation is not always necessary. No thyroid should be operated upon until medical treatment has been tried. It should be tried for two reasons: It will demonstrate that many of them do not need surgery, and it will make those who do safe operative risks. It is only fair to say that the medical treatment was evolved as a result of the preoperative preparation of the patient for surgery. We were forced to continue medical treatment when the patient could not or would not consent to surgery, and found a certain percentage got well without operating.

For the hyperthyroidism itself the three most commonly used agents for the restoration of normal function, or if that is impossible, the preparation of the patient for operation, are Lugol's solution or some form of iodine, digitalis, and mental and physical rest.

Lugol's solution is the basis of all medicinal treatment. How long a patient can take Lugol's or how long it takes to prepare for operation is a matter of observation and experience. Certainly the arbitrary statement that no patient should be on Lugol's for more than two weeks is incorrect. There is no way of knowing except by giving it and watching them. Some are worse after taking it for only two days. Some have been on it for as long as five years intermittently without any bad results, and without surgery. No patient should be given Lugol's unless he will consent to be under observation. The dangers should be explained to them. The average time is three to six weeks. They should be continued on Lugol's for two to four days after operation. I have not seen a post operative crisis since Lugol's came into use.

Refractoriness to iodine is an established fact, and is one of the principal indications for surgery. Some who do not improve on Lugol's will respond to iodine in some other form. Those who show no improvement on any form of iodine

may improve on dried extract of thyroid gland. The addition of ovarian extract especially in cases at the time of the menopause is of real value.

The dosage of Lugol's is not fixed, it depends upon the response and the toxicity. A reduction of dosage is advisable as soon as improvement occurs. A small dose after the initial improvement will sometimes keep them well. The average dose is 3 to 30 drops, three times a day. Potassium iodide, 5 to 15 drops, three times a day. Dried extract of thyroid gland, one or two grains, three times a day.

The use of digitalis in the treatment of hyper thyroidism is a matter of opinion. Some men hold that the tachycardia, since it is due to the over activity of the gland, will disappear as soon as that phase is controlled. Clinically digitalis slows the pulse and increases the rest period of the heart. It raises the blood pressure, which is usually low in these patients, by its action and improves the general health. The dosage depends upon the pulse rate and should be reduced as the pulse rate comes down. A pulse rate of 80 requires no digitalis. An ice bag over the heart in the severe cases with rapid pulse is of great value.

For the insomnia and restlessness, luminal, sodium bromide, or some other drug of that kind can be used.

The diet should be simple, nutritious, and satisfying, and in quantities that will permit the patient to put on weight. The hyperthyroid's metabolism is increased and he burns up more fuel than the normal. The stimulating food as a rule had better be omitted. To this group belong meat, eggs, tea, and coffee.

The most important non-medical factor in the treatment of these patients is to obtain complete mental and physical rest. One is as important as the other. It has been shown definitely that emotional stress and mental activity increases the internal secretions, including the thyroid. The onset of hyperthyroidism is often precipitated by an emotional shock, anxiety, fear, and apprehension. To obtain the confidence of the patient is the first essential. The public should be enlightened as to the present status of the treatment of thyroids. They still associate a diagnosis of goiter with a serious operation and little chance of recovery. It is better to reassure them and not mention operation until they are ready for it and have lost their great fear of it. It certainly is poor judgment to see the patient in the office one day and send him in to be operated upon the next morning. If that patient really needed an operation his chances of recovery are very much reduced.

Physical exertion or even ordinary exercise should be stopped. Dancing, athletics, shows, and excitement of all kinds should be omitted. The severely toxic patients should be placed in a quiet room with some one to take care of them who has plenty of poise and common sense. Restriction or prohibition of physical activities should be persisted in until all signs of cardiac decompensation disappear, the pulse is not more than 80, and the urinary output adequate.

I made the statement that surgical technic, alone and by itself, was not sufficient to achieve the best results and obtain the lowest possible mortality. I repeat the same statement concerning preoperative treatment, and emphasize it. A patient can receive the best preoperative treatment and meet with disaster because little or poor judgment was used in selecting the opportune time for operating. We all know that these patients have an up and a down curve in their condition. The only time to operate is when they are at the peak of their improvement. and before they are on the downward curve. Operate when they have received the optimum of benefit from medical treatment. The best time is when clinically it may be unnecessary; when they expect to get well, not when they fear operation. I do not mean the ordinary apprehension the majority of people experience when a major operation is contemplated. There is a vast difference between fear and apprehension. I would refuse to operate upon a patient who had no confidence in me. Confidence in the surgeon removes considerable of the risk of operating. *A thyroidectomy is never an emergency operation.* Wait until the symptoms of toxicosis are lessening as shown by a gain in weight. less tremor, and a pulse rate of not over 80, and their mental attitude is such that they approach an operation with the full expectation of recovering. In my experience the mental attitude is of the utmost importance, and the safest guide as to when to operate. They should all be in the hospital not less than three days before operating. This gives them an opportunity to become accustomed to the change in environment and to

hospital routine. To let them see and talk to patients who have been successfully operated upon, builds up their morale and is often the final factor in removing any remnant of fear which may exist. The psychic and mental make-up of the individual must be taken into consideration. It is of as much importance as his physical make-up. Routine mechanical care is not sufficient. The personality of all who come in contact with the patient is part of the treatment. Crile has definitely proven these facts with results that have been equalled nowhere else in the world.

Often the patient or relatives insist on an immediate operation and threaten to go elsewhere unless you agree. I am aware of the fact that they will have no difficulty in finding someone willing. I insist, however, that there is an opportune time and that the surgeon should fix the date, and not friends and relatives of the patient. I have, on a number of occasions, refused to operate because in my judgment the patient was not ready due to insufficient preparation. To operate on a moribund patient or because "she would have died anyway" is senseless.

All patients who are refractive to iodine should be prepared and operated upon, as well as those who find the medical treatment irksome, or those who for social or economical reasons find the restrictions impossible. There are three groups of patients it is inadvisable to operate upon. First in that group, are those suffering from a psychosis including the infective exhaustive psychosis, and particularly the psychoneuroses whether of the psychasthenia or neurasthenia type. The latter two are never sufficiently benefited to make it worth while risking your reputation by resorting to surgery. They make up a large part of the sixty per cent in statistics which are not returned to normal. This also holds true for the mild hyperthyroids complicated by or due to maladjustment to social and physical environments which cannot be corrected. The infective exhaustive group are seldom in condition to make them safe surgical risks. Another group it is better not to operate upon are those with an accompanying physical condition that cannot be corrected, at least to the point of making surgery a safe procedure. The prognosis of the accompanying condition should be considered when advising operation. To keep the mortality low you must pick your cases. The best men are doing it, and it is well to profit by their experience.

As to technic. I had no intention of giving the impression that technic was of minor importance. A technic which requires two hours for completion will have decided bearing on the outcome. Speed consistent with safety, and due to dexterity, and co-ordination of all assistance, or dexterity plus team work is the ideal.

Whether to remove one or both lobes at one time depends upon the patient's condition under the anesthetic. With the modern method of preoperative preparation both lobes can usually be removed. The pulse rate while under the anesthetic is a safe guide. With ethylene the pulse rate will increase 20 to 30 per minute during induction, and will come down to the usual rate for that patient under complete anesthesia. If it stays down the patient is usually safe. If, during the operation the rate increases, it is time to finish quickly or stop. An expert anesthetist is a valuable assistant in a thyroidectomy. Pay attention when she tells you the pulse rate is going up. Since the introduction of ethylene I see no advantage in local. The general anesthetic does away with the fear and tension which a local imposes on the patient. There is less shock with the general than with the local. I have had the experience of being obliged to stop the operation under a local because of the patient's agitation, and been able to go back a week later and complete the entire operation under ethylene without any difficulty. I prefer ethylene. Having the patient awake and able to talk during the operation is no particular safeguard as far as the recurrent laryngeal nerve is concerned. If you clamp before you cut you will know immediately by the change in the character of the breathing that the recurrent laryngeal nerve is involved. A peculiar stertorous breathing always occurs, and disappears when the clamp is removed. Your anesthetist will call your attention to it at once.

The usual method of removal is by the intracapsular method. I am of the opinion that the extracapsular or anatomical resection has many advantages over the intracapsular method. It is safer in that the structures can be seen and identified before cutting. There is less danger to the recurrent laryngeal nerve and the parathyroids. The objec-

tion that too much of the gland is removed does not hold. One can save a very small fringe along the trachea. The intracapsular method is supposed to offer more protection to the deeper structures along the trachea. It offers no greater protection and leaves to chance factors which we should be sure of. It also assumes that there will be no abnormalities of location. The recurrent laryngeal is not always where it should be. It has one other advantage in that by the extracapsular method the inferior thyroid artery is ligated extracapsular, and before giving off its branches it lessens the danger of a hemorrhage from slipping. If in addition the superior thyroid artery is ligated before beginning the removal of the gland the operation is almost bloodless and lessens the danger of pressure due to oozing after the wound is closed. Most men do not remove enough of the gland due to fear of injury to deep structures. The extracapsular removal permits of accurate determinations of how much is left. Very little is needed for normal function.

One other point. It has been demonstrated that in some cases the inter-arytenoid muscles are supplied by branches from the superior laryngeal nerve, and that cutting this supply accounts for the hoarseness in cases where it is definitely certain the recurrent laryngeal was not injured. This can be avoided by dissecting out the superior thyroid artery and cutting it very close to the capsule.

Summary: The reduction of mortality in thyroidectomy is essentially a matter of preoperative preparation, with the exercise of judgment based on clinical experience, and followed by a surgical technic which combines speed consistent with safety.

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THE HISTORY OF THE DEVELOPMENT OF PHYSIOLOGY IN THE UNITED STATES

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The history of physiology in the United States parallels in the earlier stages that of other branches of medicine. Garrison states that "there was no American medical literature to speak of until long after the revolution." Every student of medical history is familiar with the careers of such men as Morgan, Shippen, Church, Thacher and Tilton. Such contributions of value as were made by them were purely clinical and had little to do with the scientific progress of medicine.

Only two men of the colonial period made any contributions that might by the most generous interpretation be classed as physiological. Benjamin Franklin might properly be considered the first American to investigate functional processes. These investigations covered such diverse fields as refraction, sleep, deafness, nyctalopia, blood temperature and electrotherapy. It cannot be said, however, that any of his contributions exerted any great immediate influence on the subsequent progress of medical science.

Of considerably more importance was the work of Benjamin Rush. His graduating thesis at Edinburgh in 1768 was one of the earliest reports of experiments on the physiology of digestion. The following year he became professor of chemistry in the College of Philadelphia and later succeeded to the chair of the Institutes of Medicine in the University of Pennsylvania. This chair was founded in 1789 and first occupied by Caspar Wistar. In 1879 the title was changed to that of physiology. In point of continuous existence, therefore, this is the oldest chair of physiology in this country since there was unbroken succession down to the present occupant.

While Rush did not continue the investigations on digestion which constituted his first scientific effort, this early interest doubtless stimulated certain of his students to undertake investigations in this direction, as will be shown presently. His most important physiological investigation was on heat regulation. But his clinical investigations on insanity and yellow fever bear all the marks of a scientific mind and enable one to understand the brief flare of scientific activity at the University during the earlier years of the nineteenth century. He also made some contributions to anthropology.

In 1803 John Richardson Young graduated from the University of Pennsylvania, choosing as a thesis the subject of gastric digestion. Young was apparently the first American to use methods of investigation at all comparable to modern physiological procedure in that he em-

ployed animals as experimental subjects. As Meek points out, his experimental methods "remind one of the work done a hundred years later." He also experimented on himself and on a fellow student who was a regurgitator. While he was mistaken in concluding that the acid in gastric juice was phosphoric acid, a mistake probably more correctly assignable to the inadequacy of chemical methods than to the investigator himself, he was correct in concluding that acid is a normal constituent of the gastric juice and not a product of fermentation and that its function is to render food soluble.

This conclusion was confirmed by Oliver H. Spencer, a classmate of Young, whose thesis was entitled "Experiments and Observations on Digestion."

Two years later Thomas Ewell, a third student of Rush, graduated with a thesis entitled "Notes on the Stomach and Stomach Secretion." In the course of his experiments he performed what is believed to have been the first vivisection experiment on a dog in America. This involved isolating a loop of the ileum into which he injected boiled meat saturated with pig's gastric juice. The loop was replaced and after three hours again examined, when it was found that a third of the material had disappeared and the lymphatics were engorged. This type of experiment was unique in the annals of physiological investigation up to that time. For some reason, the stimulus supplied by Rush was ineffective thereafter. Young died a year after graduating and neither Spencer nor Ewell followed up their promising initial efforts. Physiological investigation was practically dead for the next thirty years.

Then came the brilliant investigations of Beaumont. Since these were the subject of an earlier paper before this body, they will not be detailed here. We need only emphasize that Beaumont's chief contribution, aside from the actual scientific facts evolved, was the demonstration of the possibilities of a new method of investigation, later to prove invaluable to modern physiologists. But Beaumont never trained any followers, never occupied a teaching position and consequently exercised no influence on the subsequent development of physiology in America, at least not until nearly fifty years had elapsed.

Closely paralleling the career of Beaumont is that of Charles Edward Isaacs, who graduated from the University of Maryland in 1832, spending the next few years as an army surgeon. Resigning in 1845, he opened a private school for medical students in New York, but a year later he became demonstrator in anatomy at the College of Physicians and Surgeons and finally Professor of Anatomy in the University of New York. There he carried out a series of investigations on kidney function that should place his name alongside those of Bowman, Heidenhain and Ludwig. Bowman's first kidney work was published in 1842 and apparently furnished the impetus for Isaac's work. He began by repeating Bowman's experiments but extended them to such a wide range of species as the frog, turtle, snake, alligator, fish, bird, mouse, rat, squirrel, cat, dog, raccoon, rabbit, hog, sheep, deer, elk, moose, ox, horse, black bear, rhinoceros, monkey, and man. As Bieter has remarked, "How many other investigators have made use of such an extensive and representative series of organs?"

Although Heidenhain is given credit for the first use of dyes in experimental kidney study, Isaacs had actually made use of a wide range of dyes some seventeen years earlier. His conclusions as to kidney function were, in general, similar to those of Ludwig. His two papers were published, however, in clinical journals with only local circulation and consequently attracted little attention in the scientific field, certainly much less than they deserved. While professionally an anatomist, practically all his work was functional in outlook. Like Beaumont, his direct influence on the development of medical science was apparently not great.

Of the group of isolated physiological investigators in America we must mention Bennett Dowler of New Orleans whose investigations on post mortem temperature rise, idiomuscular contraction, and on the nervous system were conducted along modern lines. He was a violent opponent of the Bell-Magendie law and consequently many of his investigations were subsequently discredited. Assistant Surgeon General W. Hammond made some careful observations on nutrition and metabolism and J. K. Mitchell, Professor of Medicine at Jefferson Medical College, published some important investigations on the heart.

The first full time professional teacher of physiology in America was Robley Dunglison

who as a young graduate in medicine from London was called to the University of Virginia in 1824 as Professor of Anatomy, Physiology, Materia Medica, Pharmacy and Medical History. As Oliver Wendell Holmes once remarked, he occupied not a chair but a settee. After nine years he went to a similar position in the University of Maryland and later to Jefferson Medical College where he remained until his death in 1869. He was of such a nature as to preclude undertaking experiments on animals to any great extent but he was a prolific writer, publishing such works as a "Medical Dictionary," and texts on materia medica, hygiene, medical practice, medical history and new remedies. His most important work however was a "Human Physiology" first published in 1832 and for many years thereafter the standard text on that subject. Previously Haller's text was the only one used extensively in this country. The influence of this work on physiology in Europe was largely duplicated by Dunglison's text in America.

Oliver Wendell Holmes also touched the field of physiology to a minor degree. He was Professor of Anatomy at Harvard but from 1847 to 1865 also gave lectures on physiology accompanied by some simple demonstrations. However he made no contributions nor did he exercise any particular influence on the development of the subject.

Of considerably more importance was the work of J. W. Draper, Professor of Chemistry and Physiology in New York University. Besides being a versatile student he made investigations of the physics of auditory and ocular phenomena, capillary mechanics and bronchial musculature function. His most important work, however, was a textbook first published in 1856 which bore the rather pretentious title "Human Physiology, Statical and Dynamical, or The Conditions and Course of the Life of Man." For many years this text was a standard in American medical schools and along with Dunglison's text was widely consulted by physicians. While neither of these men trained any teachers of physiology, their writings were of great importance to the medical profession. Draper's text contained a wide range of biological material. The parts devoted to pure human physiology were remarkably well written in consideration of the state of knowledge at that time, embodying a discussion of the relations of known physical and chemical laws to physiology, or what would now be termed general physiology.

In addition there were sections on anatomy and histology, sociological relations, the soul, dreams and nightmares, anthropology, cultural relations of races, biological bases of religion, comparative psychology, and a general dissertation on science. In fact he touched upon the whole gamut of human activity in relation to physiology.

A prominent contemporary of Draper was J. C. Dalton who graduated from Harvard Medical School in 1847 then spending some time in Bernard's laboratory. In 1851 he published his classical paper on the "Corpus Luteum of Pregnancy" for which he received the prize of the American Medical Association. The following year he assumed the chair of physiology at Buffalo. After two years he went to the University of Vermont, and, in 1855 to the College of Physicians and Surgeons in New York, now part of Columbia University, resigning in 1883 to become President of the institution. to be succeeded by John G. Curtis. During the Civil War he served as surgeon in the Army.

Dalton was one of the first to make use of the duodenal fistula in studying bile secretion. He also investigated thoroughly the glycogenic function of the liver and his results confirmed those of Bernard. To him must be given great credit for the final acceptance of Bernard's theory as against that of Pavy.

In addition to a text on physiology which largely supplanted those of Dunglison and Draper, he published a finely illustrated monograph on "The Topographical Anatomy of the Brain." He was the first teacher in America to illustrate didactic lectures with extensive animal experiments. As a result of this practice active antivivisection propaganda first appeared in this country. In reply to the attacks on him he published a classical monograph on "The Experimental Method in Medicine." However, at no time during his career did he undertake laboratory instruction of students.

Austin Flint, graduated from Jefferson Medical College in 1857. Previously he had assisted Dalton for some time at Vermont. After a period spent in Bernard's laboratory he became

professor of physiology at Buffalo but in 1861 he participated in the founding of Bellevue Hospital Medical College and was professor of physiology there until 1898 except for a period of army service during the Civil War. He then went to Cornell, where he remained until retiring in 1906. His investigations covered capillary circulation, metabolism and related subjects. In 1862 he isolated the substance later known as corprosterol.

In addition to original papers he published a five volume text on physiology, the first extensive work of the kind since that of Haller. A condensed single volume text was widely used until comparatively recent years.

One other important figure appeared in the pre-modern period, namely S. Wier Mitchell. Although he never occupied a teaching position in physiology, he has had a real influence upon the development of that science. As a trustee of the University of Pennsylvania, he stimulated an enormous volume of investigation, the results of which appear under 522 titles during a period of twenty years.

His first paper appeared in 1852 and dealt with the form of uric acid crystals. From then until his death he kept up a steady production of scientific articles of the highest grade of excellence and over a great variety of subjects. These included snake venom, nerve injuries, nutrition, the knee jerk, but perhaps his most important work was as a pioneer in the investigation of cerebellar function. With the exception of Beaumont, he is the only one of the group so far discussed whose influence persists to the present time. He was an enthusiastic exponent of laboratory instruction and must receive a large share of credit for the development of this phase of medical education in America.

Another physiologist of this period was Brown-Sequard. Meek suggests that "by virtue of an American father, two American wives and four extended visits to this country, we may claim part of his glory." In 1852 he began the practice of medicine in New York. In 1855 he became professor of the institutes of medicine in Virginia. From 1864 to 1866 he was professor of the physiology and pathology of the nervous system at Harvard. His research publications while in America covered investigations on reflex action, artificial production of epilepsy and on the pathways of the spinal cord. His indirect influence on the development of laboratory methods in medical schools was very great as will be shown presently.

In addition to the early departments of physiology already mentioned we should not overlook several other early foundations, in order that the chronological account may be complete. In 1843 a chair of anatomy and physiology was established in Cleveland Medical College, later Western Reserve University. This was held successively by J. J. Delamater, J. Gad, G. N. Stewart, J. J. R. MacLeod, and Wiggers. The University of Michigan established in 1850 a department whose incumbent was first designated as professor of therapeutics, materia medica and physiology, then of obstetrics and physiology and still later professor of anatomy and physiology. In 1877 the department attained complete autonomy.

But one of the true roots of modern physiological development is in reality to be found in the laboratory of Carl Ludwig in Leipsic. To this laboratory in 1869 went a young man who was destined to become the first of the modern group of American physiologists, and there came under the active influence of that greatest of all masters as well as that brilliant group of Ludwig's students such as Kronecker, Mosso, Lauder-Brunton, Lankester and Cyon.

Henry Pickering Bowditch was born in Boston in 1840 and graduated from Harvard College in 1861. Shortly afterward he was appointed second lieutenant in the First Massachusetts Cavalry and continued in active service until June, 1865, when he was discharged with the rank of major. He now entered Lawrence Scientific School, receiving, in 1866, the Master's degree under Jeffries Wyman, the comparative anatomist, from whom he probably received his first scientific impetus. Two years later he graduated from Harvard Medical School and, probably because of acquaintance with Brown-Sequard, who, it will be recalled, had just terminated his last visit to America and had returned to Paris, he followed the latter there but found that Brown-Sequard had no laboratory, so he entered that of Claude Bernard. He came also to some extent under the influence of Ranvier. After a short time he met Kühne and as a result of his persuasion went to Germany, finally entering Ludwig's laboratory. Here he carried out

his classic investigations on "Staircase" and "All-or-None" phenomenon of heart muscle. Here also he perfected the Bowditch clock, a new induction coil and the spring recorder for liquid flow. More important still he received the great scientific impetus that was to carry him through nearly half a century of productive activity.

After 1865, Holmes had relinquished the part of his duties relating to physiology to J. S. Lombard who worked in conjunction, for a part of the time, with Brown-Sequard. In 1870 instruction in physiology was taken over by W. T. Lusk, father of Graham Lusk, recently retired as Professor of Physiology at Cornell. In 1869 Charles W. Elliott became President of Harvard University. One of his first acts was to suggest that Bowditch should return and take up the work. Feeling that he was not yet fully prepared, he refused the offer. When Lusk, after one year decided to go into private practice, Dr. Elliott renewed his offer and Bowditch decided to accept. Accordingly, in the fall of 1871, he entered upon his duties as Assistant Professor of Physiology, as he used to remark "assisting himself." He had no laboratory and was at first practically alone in every respect. However, he soon created both an atmosphere and a laboratory, the latter more properly a laboratory of experimental medicine since the interests of those who were attracted there ranged through every field of biology from psychology to bacteriology. Here were assembled Charles S. Minot, Isaac Ott, J. C. Warren, O. K. Newell, W. F. Southard, William James and many others whose names are indelibly fixed on the roll of American scientists. Here also G. Stanley Hall began his investigations in experimental psychology.

In spite of his great influence and stimulating zeal Bowditch only inducted two students into the field of physiology as a profession, Lombard and Cannon. But he did send many into other fields of medical science, which at that particular stage was probably an equally important service. However there came to his laboratory men already embarked in the field who unquestionably were greatly influenced in their subsequent careers by the dynamic atmosphere which he created.

Cannon says that variety of interest was the keynote of Bowditch's scientific career, not only in his own personal investigations but in those of his students and collaborators. With Mitchell he believed that all branches of medicine should advance together and his activity was entirely consistent with that belief. He was always sympathetically interested in the problems and difficulties of his colleagues elsewhere, an interest which finally resulted in the formation in 1887 of the American Physiological Society.

He was one of the instigators of the four-year course in medicine. With Dalton he was a militant enemy of antivivisection and other forms of restrictive legislation.

His extra-scientific activities included membership on the Boston School Committee, Children's Aid Society, trustee of the Public Library, and Committee of Fifty on the Alcohol Problem.

He was perhaps the most widely honored American scientist up to the time of his death in 1911. Membership in learned societies and honorary degrees were showered upon him from European sources. His relations with European scientists of note went far to obtain better recognition of American scientific productivity in Europe.

Time and space do not permit a detailed account of his work. Wherever he touched the field he left an indelible impress. Scarcely one of his publications but is still important to the research worker as a fundamental starting point.

For the other root of American physiology, we must go back to the village of Arbroath in Scotland where in 1802 was born William Sharpey. This man was primarily trained as an anatomist but in 1836 was called to the new Chair of Anatomy and Physiology in University College, London. While he had no particular preparation as a physiologist, yet he made some noteworthy contributions on ciliary function. He had, however, visited Ludwig's laboratory for a time and there learned something of mechanical methods of demonstration. Several of his students have described how in the absence of a kymograph he used to illustrate its principles in his lectures by revolving his silk hat and at the same time moving his finger up and down so as to trace a line on its shiny surface. "My dear old hat" he always called it.

Out of Sharpey's laboratory came many of that brilliant group of biologists who initiated

the Golden Age of physiology in England. One of the most noteworthy of these was Sir Michael Foster. Sharpey had come to realize his own limitations and for some time had labored toward the creation of a chair of Practical Physiology, which efforts materialized in 1866 when Foster was elected to the position. One of Foster's pupils here was H. Newell Martin.

In 1870 Foster was chosen to organize the new physiological laboratory at Cambridge and Martin was invited to accompany him. In addition to his duties in pure physiology he also gave a course in Elementary Biology, for which his previous experience as Huxley's assistant admirably fitted him.

When Johns Hopkins University was organized, Martin, on recommendation of Huxley and Foster, was elected Professor of Biology, which title was changed later to Physiology. Martin assumed his duties in 1877. Thus Foster became the scientific grandfather and Sharpey the great grandfather of that extraordinary family of biologists that emerged from the Hopkins laboratories during the next 16 years. Martin's own scientific production was in line with that of Foster but nevertheless of such a nature as to demonstrate clearly the hand of a master in his own right.

He early established contact with Bowditch and their relations were most cordial. They collaborated in the formation of the American Physiological Society and seven of the 24 charter members were Martin's students.

In chronological order the most important of his students were Henry Sewall who assumed the professorship of physiology at Michigan from 1881 to 1892 when he was succeeded by Lombard who continued in this post up to 1923; W. T. Sedgewick, the sanitarian; H. H. Donaldson, whose work has been of such great fundamental importance to nutrition investigators; W. H. Howell who succeeded Martin; Frederic S. Lee who succeeded Curtis, Dalton's successor at Columbia; Geo. P. Dreyer, until lately Professor of Physiology in this University; Theodore Hough, for years head of the department and Dean of the Medical School at Virginia; Reid Hunt, still active as head of the department of Pharmacology at Harvard; A. B. Macallum, the pioneer in Canadian physiology; and Wesley Mills, for many years physiologist at Montreal.

When the Physiological Society was organized, Mitchell was first President and Martin Secretary. The latter served in this capacity until 1893 and retired without ever attaining the presidency. Ill health forced his retirement at the early age of 43 and he died three years later.

Mitchell served as President of the Society during three terms, Bowditch six. The latter was succeeded by Russell H. Chittenden. This fact is mentioned because it is so significant of the intimate relations between Physiological Chemistry and Physiology existing at that time. This subject is usually considered as an outgrowth of Physiology. As a matter of fact, in this country its development was largely independent, although if we trace back its geneology to its European source we find the collateral line of descent from the laboratory of Kühne in Heidelberg. Kühne in turn was trained under Virchow, Bernard and Ludwig. Because of his experience with Bernard he always evinced a strong inclination toward chemistry.

When Chittenden decided to go to Europe in 1878 with a view to preparing himself to develop more fully the study of the chemical nature of physiological processes he first selected the laboratory of Hoppe-Seyler in Strassburg as the site of his labors. But on account of the crowded conditions of this laboratory, he decided to go to Heidelberg. Kühne's interest in the young unknown American was immediately aroused when he recalled his name as the author of a paper on glycogen in muscle that had appeared in the German literature a short time before. Productive research in America was in those days a rarity.

A laboratory of physiological chemistry had been established in Sheffield Scientific School at Yale in 1874 and on his return to America after two years in Heidelberg, Chittenden was placed in charge and kept up a long career of research and training of research students so that practically every important laboratory in this country today in some way may trace its development to the influence of Chittenden. Until the formation of the Society of Biological Chemists in 1907, the two groups were closely associated in every way. Biochemists served as officers of the Physiological Society and published much of their work in the American Journal of Physiology. On the other hand a number of physiologists have served as officers of the Biochemical Society.

Between 1880 and 1927, the doctorate was conferred on 93 candidates in Chittenden's laboratory.

With the opening of the new University of Chicago, Jacques Loeb was called to organize a department of physiology. After ten years he was succeeded by G. N. Stewart, who in turn was followed by A. J. Carlson. From this laboratory has issued a steady production of investigations and investigators that has, in some respects at least, surpassed both of the older centers, Harvard and Hopkins.

While it cannot be said that the American Schools have produced many figures who compare in scientific stature with the great European masters such as Bernard, Ludwig and Foster, nevertheless they are attracting increasing numbers of students from other countries. In 1929, for the first time, the International Physiological Congress was entertained in America. The American laboratories are now generally conceded to be the best equipped materially and best supported financially. Whether this means that they will ultimately become the best equipped intellectually, depends on many intangible factors which cannot be evaluated nor discussed at this time.

When one surveys the entire field of research activity in physiology in America, two distinct general lines are apparent, superimposed on the older fields. One is a distinct trend toward biophysics, the other embracing studies of integration of the whole organism. In the latter field are to be found most of the important practical clinical investigations of a functional nature. It scarcely behooves us to attempt to prophesy as to the future results of these developments. But it is certain that the study of function in some guise has come to assume the place of primary importance in medical science.

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SPINAL ANESTHESIA IN GYNECOLOGY*

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At almost every important surgical congress of recent years, the use of spinal anesthesia has been discussed and the fact that there are still papers and reports being read on the subject demonstrates that there is still need for discussion and promotion of the idea.

Corning in 1894 performed the first lumbar puncture on a dog. In America the first operation under spinal anesthesia was performed by Matas in 1899. Babcock performed about 20,000 operations under spinal anesthesia.

Operating from 1921 to 1924 in the gynecological department of the State Hospital in Belgrade (Jugoslavia) under the direction of Professor Redlich and Dr. Jovanovich and Sibenic (Dalmatia), we used spinal anesthesia with novocain, stovain, tropococain in almost 90 per cent. of our cases. During this time we performed more than 700 laparotomies and vaginal operations. In 2 per cent. of these cases we had complete failure of the drug to anesthetize and in 4.5 per cent. of the cases we obtained incomplete anesthesia. We had no deaths which could be ascribed directly to spinal anesthesia. In some cases death followed Wertheim's operation for cancer of the cervix; such deaths, however, we did not attribute to spinal anesthesia since the effect of this anesthesia lasts only an hour or an hour and a half and since the operations had to be completed either under ether or a mixture of chloroform and ether 1 to 3.

The most frequent complication of spinal anesthesia was severe headache of the patients during and after operation. We also had fall in blood pressure; this was overcome by injection of adrenalin which was always kept ready in the operating room. Among other complications we noted nausea and vomiting, pallor and cold

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sweats, and general discomfort in the beginning of operations. These findings were present in about 60 per cent. of our cases. After about fifteen or twenty minutes the patient gradually recovered from these symptoms and the operation continued without further discomfort to the patient.

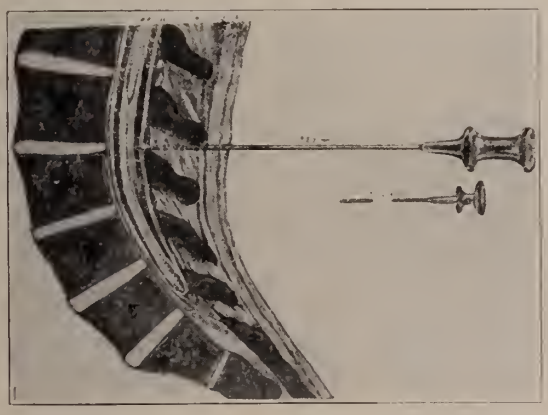


Fig. 1
From "Operative Gynecology" by Prof. Lipmann

Consent of the patient for spinal anesthesia was required. Patients suffering from tuberculosis, acute and chronic bronchitis, emphysema, asthma, heart lesions, arteriosclerosis, pyelitis, nephritis, acidosis, hypertension, cocain addiction and those who were heavy drinkers were strongly advised to be operated on under spinal anesthesia.

For an operation under spinal anesthesia with novocain, stovain, tropococain, the following technic was used:

The patient is prepared in the same way as for inhalation operation. One hour before operation, morphine sulphate one-quarter grain and atropine 1/150 grain are injected subcutaneously. The patient is placed in the sitting position. The assistant locates the crista iliaca and paints the skin over it with tincture of iodine. The spinal column for the extent of several vertebrae is also painted with tincture of iodine. A straight line drawn from the left crista iliaca to the right crosses the fourth lumbar interspace. This serves as our topographical point from which we can find the place we desire for insertion of the needle. The assistant or nurse stands in front of the patient and with one hand bends the head so that the chin touches the chest. At the same time the patient is asked to bow the spine. Then with the index finger or thumb of the left hand, the surgeon marks the point of insertion. He inserts the spinal needle into the skin in such a manner that it enters directly at a right angle to the axis of the spinal column. (Fig. 1.) The tissues are entered in the following order: 1. Skin and subcutaneous tissue; 2. fascia lumbodorsalis; 3. ligamentum supraspinale; 4. ligamenta interspinalia; 5. ligamenta flava; 6. dura mater; on going through this membrane we feel the characteristic snap and also meet with less resistance. Then we withdraw the stilet and enter 7. the arachnoidea. At this point we must watch for the escape of spinal fluid. If the fluid flows pure without any blood, then we take a 5 c. c. Luer syringe with novocain 0.25; we aspirate a few drops of spinal fluid so that we are sure that we are in the spinal canal and then inject half of the contents of the syringe (2½ c. c. of novocain solution); then we aspirate 2½ c. c. of spinal fluid and then reinject together with



Fig. 2

the remaining novocain. After four or five minutes the patient is put in the Trendelenburg position.

Let us now trace the sources of technical errors. If blood trickles from the needle we wait until a few drops of blood have leaked out. If the blood continues pure, then the needle must

be withdrawn immediately since we have struck a spinal vein. But if, after several drops of blood, the fluid begins to clear, we wait until it becomes entirely clear and then inject the anesthetic. In case the needle is in the canal and the fluid does not flow out, which happens when the nerve fiber of the cauda equina touches the opening of the needle, it is necessary to withdraw the needle a little; if no fluid flows then, withdraw the needle entirely and re-insert it.

If the needle is not in the midline—a very frequent mistake—we strike the bone. In order to prevent this, gauge the direction carefully before insertion of the needle and maintain that direction. If the patient is not sufficiently recumbent, or if insertion is made much below the



Fig. 3

lower angle of the upper vertebra, the needle may strike the bone. The spinal needle must always be sharp; it must be made of steel and rustless, and it is practical before insertion to bend the needle to be sure of its good condition.

The post-operative course is usually smooth except for headaches with occasional vomiting. There are no gas pains or other discomforts so often met with in inhalation anesthesia.

During the past six years two important factors have been discovered, both of which have greatly simplified the use of spinal anesthesia and both of which have been of distinct benefit to the patient. We had been puzzled about the reason for the severe headaches after this anesthesia until L. F. Size offered the explanation that the headaches were the result of seepage of the spinal fluid (the normal amount of which is from 50 to 150 c. c.) after the spinal canal was punctured with a thick needle. To avoid this he suggested that a thin needle of 22 gauge be used. This led to unexpectedly good results with the headaches almost completely disappearing.

The second improvement in the use of spinal anesthesia was Dr. Pitkin's spinocain and here the difference in results between the former spinal anesthesia and controllable spinal anesthesia is without exaggeration as great as that between the use of chloroform and ethylene. Dr. Pitkin also injects ephedrin before injection of spinocain.

Spinocain consists of novocain 0.2; gliadin (the mucilaginous solution 0.3 content of wheat starch) which produces a viscid solution that will not diffuse with the spinal fluid but will mix with it; alcohol to produce a specific gravity much less than that of spinal fluid; strychnine sulphate .0022, stimulant of vasomotor constrictors; glucose 0.65, and normal saline solution 0.5 c. c.

The specific gravity of normal spinal fluid is 1.007 and the specific gravity of spinocain is 1.0005. For this reason the cardinal feature is to remember that the spinal puncture and injection should always be done with the patient *lying* on the side and that it should never be given with the patient in a sitting posture. (Fig. 2, Fig. 3).

I started the use of spinocain in Chicago two and one-half years ago and realizing the advantages of it, I abandoned the former spinal anesthesia entirely. I follow Dr. Pitkin's technic with the exception that I do not raise the cutaneous wheal to the site of puncture. I consider this impractical since it interferes with the correct insertion of the needle.

Due to the use of ephedrin the blood pressure is not affected. The ephedrin maintains blood pressure for over three hours while adrenalin maintains it for only twenty minutes.

I have found that nausea and vomiting occur very seldom and are of short duration. Shock is entirely excluded. Pallor and cold sweats never appear. The patient does not suffer from headache. Properly applied, the anesthesia is always successful, and in comparison with the former spinal anesthesia, the patient's frame of mind is noticeably good.

In Pitkin's statistics of the use of spinocan and ephedrin in 160,000 cases throughout the United States and abroad, no case is mentioned

of death or complications. Rygh and Bessesen state that with the addition of epinephrin and ephedrin "a fatal issue from respiratory or vasomotor paralysis becomes practically impossible." The deaths occurred when the old technic was used, where medicament was diffused in the spinal fluid and only few surgeons had no fatalities. Allessandri in 708 cases, Zahradnicky in 1,650 cases, Kummel in 1,400 cases and Jonnesko in his report of 615 cases had not a single death. The other surgeons were not so fortunate. Nonne and Demme had two cases of paralysis of the lower extremities under tutocain anesthesia; one of these patients died after sixteen months. Hohmeier sent out questionnaires to a number of hospitals and received forty-one replies reporting 2,400 cases of spinal anesthesia with stovain, novocain and tropococain with twelve deaths among them. Professor Forque in his study of the mortality figures compiled from statistics of seventy-five hospitals shows the mortality to have been 0.08 per cent. Marshak in 500 cases used spinal anesthesia with novocain and reported one death. McGlinn reports two deaths among the cases of his colleagues, one case after anesthesia with novocain with the aid of ephedrin, and the other with neocain. In both cases the effects of the anesthetic wore off and it was necessary to give nitrous oxide to complete the operation. After a few inhalations of nitrous oxide and oxygen, death resulted suddenly. Cotte had two deaths in 4,000 cases of spinal anesthesia with novocain. Barker, in 2,354 cases where stovain was used, had three cases of death. Pitkin witnessed a sudden death in the Boston Hospital from the injection of novocain into the spinal cord. He explains the death to have been due to toxicity of the novocain and not due to mechanical causes. Bier used spinal anesthesia first on himself and then on his assistant and later on his patients. In the early statistics of 400 cases in which he used tropococain there were two deaths. Dr. Arthur Curtis in his "Text-book of Gynecology" states that Spielmeyer, working with animals, found extensive degeneration of the myelin sheath of the nerve fibers in the periphery of the cord after stovain anesthesia. Dr. Loyal Davis also finds evidences of meningeal irritation and an increase in the cell count of the spinal fluid. Pitkin, too, found from 15 to 25 cells to the cubic millimeter when using stovain or apothesin. In using novocain—amyloprolamin solution, Pitkin did not notice an increase in the cells of the spinal fluid.

As to accidents of a technical character, Frank Lahney reports three cases of breaking of the needle during the injection, one of which was in his clinic and two in other places. In all three cases the needle was removed successfully with a right angled hemostat after a generous longitudinal incision.

Ogloblina reports another case of this nature. Spinal anesthesia was attempted on a patient for removal of the right kidney, but the needle broke and the operation was performed under inhalation anesthesia. Ten months later, after striking his back against a bench, the patient developed severe pain in the lower part of the chest. He went to another hospital and x-ray showed a broken spinal needle between the twelfth dorsal and first lumbar vertebrae. A rusty needle 3½ cm. long was found, which broke during its removal. However, it was completely removed and the patient was discharged in good condition.

Much has already been written about the advantages of spinal anesthesia over inhalation anesthesia. However, I do feel justified in comparing ethylene with spinal anesthesia, since I have met with only a few words of discussion of this subject in literature. The inventor, Professor Luckhardt, submitted himself to ethylene anesthesia over a hundred times, so the safety of ethylene is obvious. In the beginning of its use a few cases of explosions of theylene were reported; at present this is prevented by conducting away the static electricity. Dr. S. Heaney first used ethylene anesthesia on patients in Presbyterian Hospital in Chicago and pointed out its advantages over other inhalation anesthesia.

Aurelius reported regularity of pulse during anesthesia and undisturbed respiration.

Chauncey Leake demonstrated that ethylene with oxygen causes a gradual lowering of the blood P_h and during forty minutes' anesthesia it is not beyond normal limits.

But ethylene has its deficiency. This was first mentioned by Thomas Watkins at the very beginning of its use and that is that ethylene affords insufficient relaxation of the abdomen and in complicated cases of abdominal surgery we are forced to have recourse to ether.

Therefore, although ethylene is safer than any other inhalation anesthesia, it has proved insufficient in cases of complicated laparotomies and cannot take the place of spinal anesthesia in these cases.

In conclusion I feel that spinal anesthesia should be given in all cases where there is absolute indication for its use and that the former spinal anesthesia with novocain, tropococain and stovain should be replaced by spinocain, which is safe, does not cause complications or discomfort to the patient during and after operation.

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PRECIPITATING FACTORS IN MENTAL DISORDERS*

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In the presentation of this paper the position of the general practitioner, and not that of the psychiatrist, will be considered. When a patient has recovered from a nervous disturbance and has returned to the home, one of those best situated to guide him so as to prevent future attacks is the family physician. When a patient is well enough to leave an institution where nervous conditions are treated, advice should be given as to future activities by those who have been in charge of the case. This is not enough. In the opinion of the writer, guidance by one in actual contact with the former patient, is of greater importance in many instances than advice given perhaps years ago by one who could know little of the subsequent environment and problems. Even if the interests of the physician lie in fields other than psychiatry he can scarcely avoid being sought as arbiter in questions having to do with the continued mental health of the patient.

What can be said which will be of aid to the general practitioner in helping his patients to

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TABLE 1

SOMATIC PRECIPITATING FACTORS

All figures except the number of cases represent percentages. Decimals not included.

Class.	No.	None	Alc. & Drugs	Lact. Preg.	Infectious	Operations Traumata	Exhaustive Conditions	Meno-pause	Misc.
Dement. Praecox	100	63	2	4	17	5	9	..	..
Manic-depress.	100	50	4	4	18	6	10	1	8
Invol. Mel.	100	53	..	1	16	8	2	23	5
Psychoneuroses	100	30	3	4	22	19	7	6	25
Paresis	90	89	1	..	3	5	1	..	..
Senile Dementia	68	84	1	..	6	7	1	..	..
Total	558	369	11	13	82	50	30	30	38

avoid mental disorders? Obviously no panacea can be offered but if any attacks can be averted, consideration of the subject is well worth while.

Viewed in the largest sense, consideration of the prevention of mental disorders would have to include heredity and training of the individual. These features, although of great importance, lie outside the scope of this paper.

Two questions which if answered should shed light on our problems are: First, are there characteristics which stamp an individual as one who may develop a mental disorder, and second, what are the factors if any which may precipitate an attack?

With these questions in mind 558 cases were reviewed, divided as follows: 100 each of dementia praecox, manic depressive psychosis, involutional melancholia and the psychoneuroses, 90 suffering from general paralysis of the insane and 68 from senile dementia. The psychoneuroses included 25 each of hysteria, neurasthemia, anxiety, neurosis, and psychaesthenia. No criteria were used in the choice of cases[1] except that the classification was not questioned.

Several admirable papers have been written on the subject of precipitating factors in mental diseases but it is doubtful if they have received the attention from the profession as a whole that they deserve. There are conditions such as the drug, traumatic and post-infectious psychoses in which the exciting cause is believed to be known. What is true of the other psychic illnesses?

The somatic disturbances which preceded attacks of illness considered in this paper are grouped in Table I. In search for stresses occurring before the onset of attacks, the arbitrary rule was adopted of tabulating all factors which were present within four months of the onset of the nervous disorder. Some of these probably had no influence on the development of the psychosis. It may also be true that actual precipitating factors which the history failed to bring to light existed in some instances. The significance of the table lies not in any one figure but in the relative proportion of those in one group to another. Percentages instead of actual numbers were used so as to make comparison easier.

There is no intent to delve exhaustively into the significance of all figures. Grouping all disorders together infectious conditions, operations and traumata, miscellaneous factors, menopause, and exhaustive conditions occurring most frequently in the order named. In another group of cases the figures might well be different.

Among the psychic stresses shown in Table 2, death or illness of others closely bound to the patient, and financial difficulties due to such things as lowered value of property, loss of posi-

TABLE 2

PSYCHIC PRECIPITATING FACTORS

All figures except the number of cases represent percentages. Decimals not included.

Class.	No.	None	Financial	Domestic	Love Affairs	Deaths Illness	Sexual	Misc.	No Precip. factors	Som or Psych. Present
Dement. Praecox	100	66	2	5	10	6	..	13	32	68
Manic-depress.	100	44	17	5	1	24	1	17	24	76
Invol. Mel.	100	47	18	3	2	14	..	22	16	84
Psychoneuroses	100	54	4	8	3	14	2	21	4	96
Paresis	90	89	5	1	1	3	..	2	75	25
Senile Dementia	68	90	4	..	..	6	..	..	73	27
Total	558	390	50	22	17	67	3	73	225.0	375.0

tion or inability to make sufficient money, occur with relative frequency. The largest number of factors is grouped under miscellaneous since it was difficult to bracket these factors without making the chart cumbersome. Among them are various difficulties in making adjustment to new conditions; moving to a new environment, settling an estate, disgrace to some member of the family, and a variety of other situations.

In some cases more than one stress occurred before the nervous disorder appeared and in such instances each stress was chartered.

It may be noted that among the 90 paretics the onset of the metal disorder was preceded by some stress in 24.5 per cent. of the cases. Most of these stresses were probably of no actual relationship to the paresis. A few may have been since such relationship has been stated to exist. In 138 carefully selected female patients suffering from general paralysis of the insane, Hinsie[2] found the onset of the disease was conditioned in two patients by physical trauma and in three patients by psychical states.

Granting the possibility of some of the cases in this group of paresis having been precipitated by an acute stress the figures in this group might still serve as a useful gauge for the other groups where less definite factors than syphilis have prepared the patient for the ultimate break. This might also be true to an extent of senile

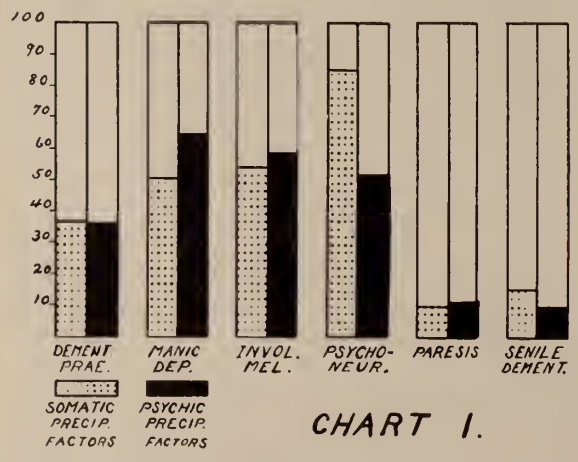
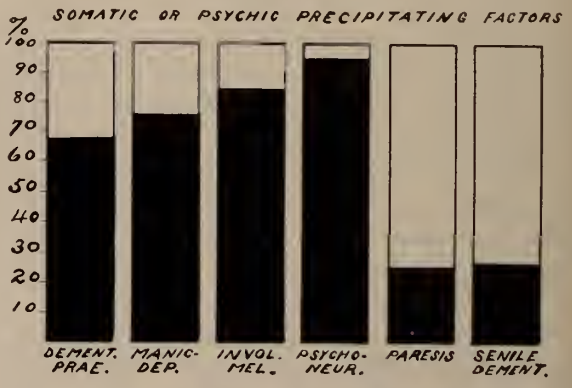


CHART I.

dementia although the cases in this group are past the age at which some of the strains might occur. In the involutional melancholia group the menopause, at least in time of occurrence, was associated with the development of the psychosis in 23 cases. It would perhaps be unfair to compare the figures for paretics and involutional melancholia unless the number for menopause is excluded. If this is done the percentage of cases of involutional melancholia in which the disorder was preceded by a somatic stress is about three times as large as for the paretic group.

Chart I shows the relative percentage of somatic and of psychic stresses occurring in the

CHART II.



various disorders. The most striking points in the chart are the not very great difference in number in each classification between somatic and psychic stresses, except in the psychoneuroses, and the definitely higher figures for the dementia-praecox, manic depressive, psychoneurotic and involutional cases as compared with those for general paralysis and senile dementia.

In Chart 1 each column represents the total number of somatic and of psyshic stresses preceding the different illnesses. Since in some instances there were several stresses in a particular case the columns may seem unduly high. This method seemed best to indicate the proportion of somatic to psychic factors.

In Chart 2 the somatic and psychic factors are combined but the columns represent not the total number of stresses but the relative proportion of cases in which some stress or stresses, somatic or psychic, preceded the illness, to those cases in the histories of which there was no mention of antedating stress.

One is reminded that Bleuler[3] and others consider dementia praecox an organic disease and one may wonder if that conception has a relation with the fact that the figures given for dementia praecox are less than for conditions commonly considered functional. The rather reserved personsality found more frequently in dementia praecox than in other cases might result in some patients failing to show outwardly the difficulties

in adjustment which would be quite obvious in the more frank manic depressive individuals. One would not expect this to be true of the somatic factors even though it influenced the known number of psychic conditions. Without attempting to draw conclusions in regard to the points just mentioned, the chart would seem to indicate that somatic and psychic stresses do play a part in the development of dementia praecox but perhaps to a lesser extent than of manic depressive psychosis, the psychoneuroses and involutional melancholia.

It has been stated in one of the foregoing paragraphs that the mere occurrence of a stress before a mental disorder does not prove the latter was in any way affected by the former. It is also true that a somatic stress may not be as potent in effect as the worry that accompanies it. Influenza or an operation may be most influential through the financial difficulties which follow in its wake. Consider the case in which a hysterical attack followed an appendectomy, where a cousin had died following appendectomy and ileus seven months before. One can readily see than the strain of our patient's illness may have been greatly augmented by the death of a cousin from the same illness. In a series of cases in which pregnancy, childbirth, lactation, trauma or a surgical operation had been assigned as of etiological signifiance, Rosanoff[4] stated, "whenever more detailed data are available it appears that these factors act not as physical causes, but through their psychical accompaniments." It is well to keep this view in mind although broadly considered the result may be the same whether the somatic factor precipitated a mental disorder directly or indirectly. The writer is inclined to think that somatic stresses may have more direct influence on the development of a psychosis than Rosanoff believes.

One might ask about the cases in which no obvious exciting cause existed. Rosanoff[5] stated, "the cases in which no causes are assigned do not differ essentially from others in etiological mechanism; it so happens that in their histories there is no spectacular event to be recorded as the cause."

Strecker[6] found in manic depressive psychosis and dementia praecox preceded by serious precipitating factors the heredity was better than where precipitating factors had played less part and that abnormal personality occurred with greater frequency in those patients whose mental illness came on without adequate precipitating factors. Strecker also stated that in his cases the great majority of recurrences appeared without serious precipitating factors. One would assume on the basis of these statements that the greater the constitutional defect the more apt an attack is to occur without unusual stress and, conversely, in the individual with fairly good heredity and a not unusual personality, a functional mental disorder is not apt to occur except following a serious precipitating factor.

Among the involutional melancholia and manic depressive cases there were quite a number in which a history of previous attacks was given. Figures relating to former attacks are not included in the table here presented. In some instances the history of a disorder which occurred years ago was not sufficient to say whether or not a stress preceded it. Tabulation of stresses which were mentioned in the histories shows that in the involutional group five were of similar character and eight were disdisimilar for the different attacks. For manic depressive cases sixteen of the stresses were similar in type and 28 were unlike the factors which preceded former attacks. Considering the many stresses faced by mankind the number of similar factors which have preceded a mental disorder in one individual suggest, not specificity of precipitating factors per se, but that there is some indication from a study of previous precipitating factors of what may be quite likely to lead to another attack if the factor recurs.

Strecker[7] states that in manic depressive psychosis where the initial attack was preceded by serious exciting factors, later attacks were apt to show the same type of apparent causation.

Thus far this paper has dealt largely with figures and tables since it seemed best to show some basis for the ideas expressed.

There is much food for thought in the concept that a social, domestic or occupational situation may precipitate an illness even though the illness be of functional character. The fact that the concept is not a new one does not lessen its importance. There is still a tendency for the laity to think of illnesses and causes of illness only in such terms as inflammation, tumor or hemorrhage. Something of the old belief, that mental activities are spirit-like and apart from physical laws, exists. Work such as that done by Lillie[8]

who showed that a nerve impulse is a chemical and electrical phenomenon, and the fact known of the relation of emotional states to bodily changes help one to think of such experiences as deaths of relatives or an attempt to adapt to a new unfamiliar environment, as producing profound physiological changes in the patient even though many steps in the physical changes which occur in these reactions are not known.

With such ideas in mind one appreciates the need for evaluating psychic traumata more keenly than if he kept only in mind a number of charts and figures. For the youth one would advise wider experience and new endeavors but for the individual in whom a tendency to develop a mental disorder has been demonstrated by the actual occurrence of a previous attack it would seem wise to attempt to gauge his resistance and to avoid stresses which experience has shown are liable to cause trouble.

It is obvious that many stresses cannot be avoided. One cannot choose whether or not a parent will die nor arrange that financial difficulties come only to those who can weather them. Yet a number of case histories describe stresses which might have been avoided.

A review of the precipitating factors found in the cases used as a basis for this paper gives the impression that while it would not have been possible to avoid many of the stresses, there have been instances where the stress and the mental disorder which followed might have been avoided had the danger of attack been known and care used to prevent difficulties. Such situations as the following might have been prevented: A woman with no business training being made executrix of the husband's will and having to manage his financial affairs; a man of advanced years going into a new business without any experience in that line; a housewife, whose interests and activities had been confined to domestic life on a farm and who had not shown ability to adjust to new social conditions, moving to a new home in town. In quite a number of instances a situation seemed to be a decided strain because it necessitated a new type of endeavor in a new environment by one who lacked training or experience in other situations of similar character. A knowledge of the individual's interests and adjustments in the past, the vigor and ease with which social, domestic and financial situations are met should be a guide as to types of activities to avoid.

DISCUSSION

Dr. Frank P. Norbury (Jacksonville): I have been interested in Dr. Clark's statistical data as he has compiled them. His work is in keeping with the observations of those who have followed psychiatric experiences for a length of time. There have been some very unique features regarding the precipitating factors, unexpected in this economic depression which, as we know, is universal and world-wide. A new feature to us, at least, has been one that has been interesting, and that is, that the number of men patients coming into the sanatorium is in excess of the number of women, while in all our previous experience of nearly forty years, we usually have had an excess of women. But this winter and following the usual increase in the fall—and I think it is continuing right along—we are finding that the men are the ones who are, by reason of circumstance and experience, being bowled over by these depressions. After that, the precipitating factor of which the Doctor has spoken, influenza, or some other allied experience, is sufficient to produce mental disorder. In the background, however, is this emotional stress, incidental to adjustment in meeting the situations in life under these economic depression conditions.

I have noted for a good many years that if a tornado passes through a certain part of the state we will very likely, with the next few weeks, have a patient from that neighborhood. Take for example the tornadoes at Murphysboro and Charleston, we had patients, the result of those horrifying experiences. Take a fire or any local disturbance that has in some way reached certain individuals in regard to their emotional reactions to the experience, and sooner or later we will have one or more individuals who show some emotional disturbance, either profound or mild in nature.

Then we have exhaustion cases that come along in season. Perhaps, many of you know that I have outlined "the seasonal curves," in mental and nervous disorders. Certain seasons, notably spring and fall, are climatic factors, as part of precipitating causes. A few years ago I used to note what I called our "school-teachers' month," which was May. After the close of the year's work, many teachers by reason of excessive winter conditions or school conditions, developed an exhaustion of one kind or another.

Dr. Charles F. Read (Elgin): Mr. Chairman and Members of the Section: This has been a most interesting paper, a scholarly paper, and has presented the subject of precipitating factors in a very clear manner.

The charts as shown by Dr. Clark were unfortunately not on the screen long enough for us to fully digest all that they represent—this immense amount of research and investigation into family difficulties and various other stresses, not to say anything of the attempt to discover what physical strains the individuals have been subjected to.

I do not know that this is the place—in a general

meeting of this kind—to enter into a more or less specialized discussion of Dr. Clark's paper.

I might say a word, however, about dementia praecox or, as we like to call it now, schizophrenia—not because it is a mouthful to say, but because it does represent something a little different from our old conception of dementia praecox, that meant in Kraeflin's time, a disease syndrome which went on in most cases to mental decay.

We find schizophrenic episodes or, if you will, mild dementia praecox episodes, occurring in many individuals who perhaps need not even be committed to sanitariums, such as Dr. Clark is connected with. Perhaps their disorder is never really recognized. They have some sort of a period of disordered activity and behavior and after that are perhaps not so good as they were before, but get along somehow or other.

One wonders, in view of the facts that Dr. Clark has mentioned, if there is not a general toxic background to dementia praecox, if we are not going to find some day that these individuals, although they are constitutionally inferior, are also suffering from some form of chronic toxemia. Perhaps they have suffered even in the uterus from toxemia in the mother; then, given certain stresses and strains, or even without stress and strain, they go under in a most surprising way. We find in involutional melancholia, as the doctor pointed out, that it does occur in women at the time of menopause and also occurs in men at the time of masculine climacteric, when the endocrine glands are losing their efficiency. Here is a subject for considerable thought and perhaps considerable therapy when we know more than we do about these things, and perhaps when we have hormones that we can rely upon better than we can at present.

There are also many factors that are hidden that we cannot bring out in short discussions, such as Dr. Clark's, fears that have arisen upon the basis of child experiences which come to a climax in adult life or when the individual is faced with an unusual stress or strain, or perhaps only with an experience that most people go through with very normally, as, for example, in the period of adolescence, a time of sexual readjustment or at the time when they should separate from the famly life and become individual entities, as it were. And again, when it comes time for marriage, we find these individuals fleeing from the idea of marriage, per haps because they are primarily homosexual or because of early unfortunate sexual experience or because of adult inefficiencies and what not; or because they have had fathers who have been brutal and domineering, or mothers who have fed them with too much security. They have relied too much upon the mother. They cannot bear to separate themselves from her and when the time comes for this separation to take place they are at a loss as to what they may do.

Dr. S. N. Clark, Jacksonville (closing discussion): There is very little that I want to say. A statement that mental disorder can be avoided seems to me rather pretentious, and my belief is that many times it cannot. I do believe, as stated in the paper, if one realizes the importance of strains—and I hope the paper brought out their importance—that one can acutally avoid some attacks.

There is one thing that I think is quite important. I have been impressed many times with the fact that there is not just one stress, but rather a series—for example, an infection now, an operation in two or three months, some psychic disturbance two or three months after that, and finally it seems that the resistance has been lowered to a degree that does not permit the usual type of mental functioning.

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THE POST-OPERATIVE PATIENT*

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To worry or not to worry about the patient's present condition appears as an uninvited question at some time or other in the post-operative course of many cases.

Were surgery an exact science, worry would be absent, because the prognosis would be certain and exact as in controlled experimental conditions. Our knowledge as to the prognosis of any given case complicated by an undesirable symptom, is based chiefly on a statistical percentage of probabilities. The latter conclusion, in turn, depends on the surgeon's personal experience, and his knowledge of others' experience gained through personal contacts and the literature. Our first thought, therefore, is the question as to what usually happens, and we gain comfort or the contrary from the answer. This knowledge, in itself, is indisputably valuable as an absolute factor, but becomes only relatively valuable when practically applied to the indi-

*Lecture to clinical clerks on the surgical wards.

vidual case in hand. It is this practical application which is important.

How is the patient?

This frequent question by the surgeon of his associate, assistant, interne, or nurse, immediately brings before the mind's eye a picture of the patient in bed in various degrees of postoperative reaction. The answer should be an intelligent attempt to communicate to the questioner the appearance in general of the patient, a first impression, followed by more details as to symptoms and findings, and finally a conclusion as to the general present trend and prognosis. This mental picture is complete, proportionately dependent on (a) one's powers of observation, (b) experience, (c) intelligence, (d) knowledge of items to look for, and finally (e) judgment in evaluation of symptoms and findings. These arbitrary divisions are, of course, interrelated.

To detail the above items, we may begin with a consideration of what is meant by the powers of observation. In recent years we have been chided by various psychological tests to attempt development and training of these powers, as in the experimental looking at a show window for a given time, and then writing down the articles remembered. It is no doubt true that we see more details when we consciously look for more. In this direction we can be trained, as witness our actual learning to see and differentiate a nucleus in a cell when first taught to look, see and observe through a microscope. More pertinently, we can be taught to look at (some wipe) a patient's tongue and see evidence of early dehydration.

Experience gives us the means for comparison of the patients' conditions or of individual symptoms. For example, previous knowledge of how many other operatives' tongues look, will give us a basis for comparing the degree of moisture of this particular tongue. We are thus able to state whether a symptom or finding, e.g., state of hydration, is excellent, good, fairly good, fair, poor, or bad. Experience therefore gives us a background for comparison and lends weight to our use of the comparative descriptive adjective.

Intelligence not only includes powers of observation and experience, but also the generous use of common sense in an examination. Machine-like examination in the process of detailed observation may be ill-timed. For example, it may prove embarrassing when looking at the tongue to voice a conclusion of good hydration and overlook ice pellets in the nurses' teaspoon. To turn the exhausted patient and remove bandages in order to determine the differences in tactile fremitus may be part of an examination which is thorough, but not necessarily of one which is intelligent.

A knowledge of items to look for comes through training. The list varies with the case and may be inexhaustible. No attempt will be made here to be complete. A first impression of the patient's general condition is often times forced upon the observer. The face is the first object of notice and may well be the only one necessary upon which to base an intelligent report of the operative's condition. Begin with the expression of the face, which usually means that of the eyes. We note whether the lids are wide open, whether the eyes are alert and bright, and whether they follow the visitor as he moves. Such a description immediately conveys to the experienced physician a definite condition, especially if contrasted with the eyes which are half closed, dulled, and rolled upwards. The sclera will be the first tissue to show icterus. The general facial expression may be happy or anxious, with many fine shades of indifference. The cheeks may be drawn and sunken, or full and smiling. The nose is peaked or otherwise. The color may vary from the literary ashen and grey, to a pink flush. The color of the ear lobes and lips is an important clue to the state of the circulation. Even the presence of a woman's rouge reveals her attitude; its absence, her miserable indifference to male's appraisal. An icebag on the forehead is not, as a rule, a happy observation. The voice may indicate not only weakness, but recurrent laryngeal nerve insult as in operations on the neck. Hemorrhage after a thyroidectomy may be revealed first by tracheal pressure and cervical swelling.

With the bed covers still untouched, dyspnea may be observed. Respiratory embarrassment postoperatively may be as easily due to diaphragmatic irritation from the abdominal side as to pulmonary pathology.

Massive collapse of the lung is recently diagnosed more frequently probably because our attention is called more often to its occurrence as an early postoperative complication. Cardiac trouble, pneumonia, pleurisy, asthma, lung ab-

scess, and empyema, are more common thoughts in connection with dyspnea. The presence of a cough is news at least interesting if not disturbing to the surgeon. A look at the sputum cup is always worth while.

The powers of observation may be extended to the use of the observer's nose. The odor of the sputum or of the vomitus may be noted. Although probably disturbing to the surgeon's aesthetic sense, the olfactory evidence or flatus or of a recent bowel movement may be even a source of pleasure in a threatened postoperative ileus. The earliest, although not a pathognеumonic indication of an impending fecal fistula may result from the odoriferous activities of B. coli in the wound discharge.

The abdomen is watched carefully. The absence of distension, a soft, relaxed abdominal wall, and one which is not tender is always a source of gratification. The distended abdomen should be examined for tight bandages, or stretched adhesive, tympany, stomach outline, fluid, evidence of peristalsis, and bladder distension. Herniotomies should be noted for scrotal enlargements. The wound itself may be reddened, puffed, unduly tender, or show stitch irritation. The dressings should be observed for the type of discharge. The possibility of the occurrence of a fistula should not be overlooked. A look at the wound usually suffices—undue palpation should be avoided. In fact, with absence of complaints frequent disturbances of the dressings are unnecessary.

So far as the general condition of the patient is concerned, a study of his physiological reactions is important. The nurse's chart is sufficient for these determinations. The gastro-intestinal tract may be upset only sufficiently to affect the patient's appetite. In fact, the quantity of the breakfast is a delicate indication of the gastro-intestinal state, which in turn is quite an accurate index of the patient's general condition. Nausea in its various intensities to the point of vomiting is more of an obvious and gross disturbance. Gastric ileus must be considered. Hiccoughing is indicative of diaphragmatic irritation and is an unwelcome symptom.

Distension is intimately related to peristalsis. The normal functioning of the gastro-intestinal tract as evidenced by absence of nausea, the passage of flatus and stool, is all-important after laparotomy.

Similarly, the activities of the urinary system should be noted. Frequency, obvious hematuria, dysuria, involuntaries, and retention, are symptoms recorded on the nurse's chart.

There is not usually a great deal wrong when the record reads temperature 98.6, respirations 18, pulse 70, appetite good, and patient comfortable. A normal morning temperature, however, may be no indication of last night's temperature, or of the coming evening's temperature, as in the hectic curve type. Fever directs attention first to the wound itself, the operative field, the peritoneum, throat, and upper respiratory tract. Other sources are numerous.

Finally the pulse may be briefly discussed. Its character is to the trained palpating fingers of highest importance. The tell-tale qualities almost subconsciously noted are probably force, compressibility, rate and rhythm. The nurse's note as to irregularity of pulse as frequently refers to the rate as to the rhythm, and this point when charted should be questioned. A rising pulse rate may be the earliest sign of hemorrhage.

Probably no finding is as capable of miscalculation in the general judgment of symptoms and signs as is the pulse if taken by itself. In an impression as to the general trend and prognosis, the pulse must be considered as only a part of the detailed picture, although none the less an important part. The pulse in itself may be imperceptible and unaccountably fast in a patient whose general condition, as evidenced by other observations, is really good. On the other hand a slow, good quality pulse frequently exists with impending generalized peritonitis as in an early ruptured peptic ulcer. A prognosis based on the pulse alone must be guarded against.

Judgment in the evaluation of symptoms and findings is intimately bound up with experience and intelligence. It is interesting to note in this connection the great difference in the mental attitude of even the most conscientious, intelligent interne towards a recent operative as compared with his reaction with his own early private surgical case. As an interne, he accepts and reflects almost wholly the attitude of his attending man towards the case. If the attending surgeon shows no anxiety about a rise in temperature, the second day postoperatively, then neither does

the interne. Such a rise is more or less a matter of course—a natural reaction. A like rise in temperature following a similar operation on his own private case may frequently be a cause of great perturbation with many grave thoughts as to the outcome, even leading to sleeplessness—on the part of the young surgeon. Only curb-stone consultation may serve to allay his fears.

On the other hand, insufficient weight given to a rapid pulse may cause a hemorrhage to be overlooked, just as an acute ileus may be unrecognized early because of negligent attention to distension. Generally speaking, however, the young surgeon is more prone to exaggerate the gravity of a sign than to minimize its importance.

As to the expression of an opinion regarding prognosis it appears that the greater the experience on the part of the operator, the more guarded is the prognosis. It has been the unhappy trial of every surgeon to see the rarest complications in the simplest of surgical conditions, as well as the unexpected perfectly uneventful convalescence in cases perspired over at the operating table and apparently headed for certain trouble.

Returning to our original postulate, practical application of our knowledge becomes simply common sense in our general evaluation. This wisdom is a progressive evolution as it becomes rounded; and our judgment matures as our powers of observation increase and become keener. It is in this connection that ward rounds and patient contacts are invaluable, and supplement lectures and book knowledge.

104 So. Michigan Avenue.

ATYPICAL SCARLET FEVER*

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The discussion of an abnormal condition necessitates the knowledge of what constitutes the normal. So in a study of atypical scarlet fever a rapid review of an ordinary case may not go amiss. Furthermore, in order to understand these atypical cases one must consider the etiological factors involved.

That a streptococcus was associated with this condition was held for many years, and it was the Dicks who finally showed—experimentally—that a specific, hemolytic, toxin-producing streptococcus was the causative agent. This toxin when injected into man will produce a typical attack of scarlet fever. In minute doses it will prevent the disease—this is our basis for active immunization; while if injected into an animal such as the horse, it will produce an antitoxin which is used for passive immunization and treatment.

Scarlet fever, typical or atypical, is a disease primarily of early childhood, the curve reaching its apex about the 5th year. In Illinois the lowest number of cases occur during the summer months; there is a gradual increase until the peak is reached in mid-winter.

The character of the disease has changed greatly and in recent years it has been milder in nature. It is these mild cases that constitute the greatest number of atypical scarlet fever. In the United States from 1913 to 1923 the mortality declined about 60%.[1] In Illinois the death rate has decreased from 98.7 per 100,000 population in 1860 to 2.3 in 1927. Similar changes have occurred in other places. A statistical study in England[2] of 21,290 cases from 1895 to 1914 the records and clinical observations of which were supervised by one man, Dr. E. W. Goodhall, revealed that the fatality rate during 1910 to 1914 was only 30% of what it was during 1895 to 1899 and that serious complications were definitely decreasing.

There was a gradual decline both in morbidity and mortality for Illinois since 1925 with a sharp rise in 1929 to 17,298 cases against 12,355 cases in 1928, an increase of 4,943 cases.[3]

In Chicago there were reported 4,335 cases in 1928 with 77 deaths—a death rate of 2.3 per 100,000. There was a marked rise in 1929 and 1930. In 1929 there were 7,945 cases reported with 164 deaths and in 1930, 9,599 cases with 201 deaths, a death rate of 5.9 per 100,000—an increase of over 250% from the 1928 low. This year up to November first there were reported 7,071 cases with 160 deaths. It looks as though this year's figures will be close to those of 1930.

Outside of diphtheria and pneumonia, scarlet feved has caused more deaths in Chicago in 1930

*Read before the Irving Park Branch of the Chicago Medical Society November 24, 1931.

1. A. L. Hoyne: The prevention of contagious disease, Chicago Medical Society meeting November 13, 1929.
2. Foreign Letters: J. A. M. A. 93: 1235.
3. 13th annual report of the Illinois Department of Public Health.

than any other acute infectious disease. In the same year it has caused 17 deaths more than typhoid, smallpox, measles, whooping cough, meningitis and polio combined.

At the present time one of the greatest factors in preventing the spread of scarlet fever is early diagnosis and recognition of the mild atypical cases. I believe that the prophylaxis of scarlet fever in the next few years will occupy as great a role as diphtheria has in the past.

The symptoms vary depending on the virulence of organism, the susceptibility of the host and the amount of immunity he possesses. Toyoda[4] and his collaborators working with new and old strains of hemolytic streptococci were able to produce scarlet fever in humans with the new strains but not with the old ones.

We have no simple method, as far as I know, to determine whether a scarlet fever patient or carrier harbors virulent or avirulent streptococci in his nasopharynx or discharges.

We know that following a case of scarlet fever the organism will disappear in most cases at the end of the quarantine period. In recent transactions of the Chicago Pediatrics Society the scarlet fever patients and carriers reported on by Drs. Peacock and Blatt were negative for hemolytic Streptococci at the end of 28 and 20 days respectively.

We also know very little about the susceptibility to the disease. The number of people susceptible has been variously estimated between 25 and 50%.

The hemorrhagic type of scarlet fever occurs most commonly in enfeebled children. Perhaps the lowered resistance here is a factor.

In the tropics scarlet fever is of rare occurrence. An editorial in the Journal A. M. A. of August 30, 1930, discusses the subject and various theories for this tropical insusceptibility are given. Some believe that climatic conditions are responsible for this. The theory is, that due to the low carbon consumption for body heat in the tropics, the metabolism of fat differs, so that fatty acids become available for the neutralization of bacterial toxins. Others believe in some hereditary factor—the so-called maturation immunity of some immunologists. Still others believe it is due to mass immunization. The fact that during an epidemic of scarlet fever in 1872 in the Faroe Islands, where no case had been known for 60 years, 78% of the entire population developed the disease plus the low figures for susceptibility now obtained by the Dick test and confirmed by clinical experience, would certainly suggest that the immunity in some of our population at least must be due to subclinical infection with the disease virus.[5] The question arises, are the atypical mild cases that we see the result of partial immunity by contact with scarlet fever cases or carriers. I believe this is so.

Scarlet fever may be so mild that physicians may never get to see the patient. The severity of the onset usually corresponds to the severity and subsequent course of the disease. The ordinary case has an abrupt onset accompanied by vomiting, high fever, and sore throat. The rash appears usually within 48 hours. With this combination—fever, vomiting, sore throat, and rash in a susceptible patient who has never had scarlet fever nor was immunized against it, one need not hesitate to make a diagnosis of scarlet. Before the appearance of the rash and during the first day or two of its manifestations the characteristic circumoral pallor and pinched white nose with flushed cheeks is rarely present in any other disease.

The rash which first appears on the chest and then spreads over the entire body is characteristic in that it has 2 elements in its makeup: First, a general erythema or flush and second, a punctate reddening blending into the erythema.

The fever which is usually high persists with slight morning remissions, gradually declining with the disappearance of the rash.

Vomiting is one of the most constant symptoms and is very often present even in the very mild atypical forms of the disease.

Other signs present are: The generalized adenopathy, the strawberry, or strawberry-and-cream tongue as a result of the enlarged red tongue papillae protruding through the white coating and later the raspberry tongue as the coating disappears leaving a raw tongue surface with its enlarged papillae. Marked transverse lines at the bend of the elbow may occur.

Desquamation begins after the disappearance of the rash and fever. It usually begins about the neck and chest; the hands and feet being the

4. Toyoda, T., Moriwaki, J., Futagi, Y., and Kuroi, C.: Scarlet Fever: Results of experimental research. American Journal of Diseases of Children 41:1009 May, 1931.

5. Aycock, W. L.: Immunity in Virus disease: Journal American Medical Association 97:1199 August 24, 1931.

last to peel. The process is usually complete 4 to 5 weeks after the onset of the disease.

Among the atypical cases of scarlet fever the mild forms are the most difficult to recognize. In some of these cases the rash may be so slight as to be scarcely perceptible. In other cases the rash may only last for a short time, and unless the patient is seen during that particular time one naturally misses the rash. I sometimes wonder if many of these so-called cases of scarlatina sine erythema are not cases with rashes of short duration. In school children during epidemic season we often see such cases, where following a history of sore throat, vomiting and fever, but without any noticeable rash, the child will show desquamation and severe complications such as nephritis and chronic otitis media may follow. On the other hand we have seen mild cases with no other symptoms except the rash or vomiting. Such cases followed by desquamation at the usual time and other cases of scarlet fever either preceded or followed these so that there was hardly any question of the diagnosis. I wish to stress the point that lymphadenitis and nephritis are more apt to follow the mild case, and these may be the first symptoms leading to a diagnosis. That these mild atypical cases are difficult to recognize is very evident. The intradermal blanching test with scarlet fever antitoxin can be used for diagnosing a doubtful rash. However, should the case be very puzzling the patient should be kept under observation in order to prevent the complications which may follow these mild atypical cases as well as to prevent the spread of the infection, unless repeated culture for hemolytic streptococci prove negative.

Malignant scarlet fever is another atypical, very toxic, but fortunately, rare type of scarlet. The disease sets in with very high temperature which may rise to 107 or even 108 degrees, accompanied by marked restlessness, delirium and coma. Diarrhea and vomiting are the most prominent symptoms. The patient usually dies within 24 to 36 hours so that the rash hardly has time to develop, and if it does appear it is scattered and indistinct.

The hemorrhagic type, mentioned above, occurs commonly in sickly children. Petechiae appear in the erythematous rash and gradually extend until the entire body is involved. There is also epistaxis and hematuria. Death may occur in 2 or 3 days.

We have the anginal form, in which the throat symptoms predominate and are very severe leading to necrosis and sloughing of the throat tissues. A membrane is present and the clinical picture is that of a malignant diphtheria. The eruption is usually well developed. Suppurating glands and discharging ears are common in this type. Occasionally there may develop a retropharyngeal abscess.

Finally, we have the type where the infection, according to some authorities, occurs through the skin instead of the nasopharynx. These are the cases following burns, trauma, surgery and the puerperium.

In ruling out the other conditions we must take into consideration the prevalent disease at that period as well as the history of contagion. While many good men believe that seeing is the main criterion for diagnosing exanthemata, I think one may get a very good clue if one gets a reliable history of contact and incubation time to a definite known case of contagion. This certainly applies to scarlet fever.

German measles is often confusing. In Chicago every reported case of German measles is investigated by a representative of the Health Department in order to rule out the possibility of scarlet fever. The disease is milder in character. The enlarged cervical and post auricular glands, the discrete, pinkish macular eruption, which usually does not occupy the entire body at the same time but also occurs on the mucous membrane of the mouth, plus the absence of other scarlet fever symptoms should distinguish it from scarlet fever. The blanching test may be necessary to complete the diagnosis. Desquamation is unusual but when present is very fine, lasting 3 to 5 days.

In measles, the prodromal catarrhal symptoms, the Koplik spots, the blotchy character and irregular distribution of the rash as well as a definite history of exposure to measles should offer no difficulties as a rule.

Diphtheria should be remembered as a coexisting condition of scarlet fever.

Sensitiveness to certain foods may result in cutaneous disturbances. These are usually of an urticarial nature associated with nausea and vomiting and popularly known as stomach rash. Grandmother usually makes the diagnosis. With

the absence of other scarlet fever symptoms her diagnosis may be corroborated.

There are other conditions such as erythema scarlatiniforme, serum rashes, drug rashes as following the use of belladonna, quinine, potassium iodide, and antipyrin which with the exception of the cutaneous manifestations have little in common with scarlet fever, but must be ruled out by a good history and complete physical examination.

Finally I wish to mention roseola infantum, a clinical entity described in recent years. It is a mildly contagious disease. There is a pharyngitis and conjunctivitis. The temperature lasts for three to four days, then after it drops to normal the eruption appears as discrete macules which enlarge and coalesce in a few hours. The appearance of the rash with the fall of the temperature is characteristic of this disease.

CONCLUSIONS

1. The character of scarlet fever has changed in recent years and a mild atypical form is very prevalent.
2. Careful examination and prolonged observation is often necessary to diagnose these cases.
3. Early diagnosis and recognition of the mild atypical case is a great factor in preventing the spread of scarlet fever.

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ARTHRITIS: A SYSTEMIC DISEASE*

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In some victims of the arthritic syndrome pain, swelling or deformity limited to the joint areas provide a classical picture of arthritis. The generalized character of other diseases with localizing nomenclature had been recognized. Nephritis is now known as a generalized vascular disease. Many of us have come to look upon arthritis with its joint pain and its suffering as a disease limited to the affected joints. It has up to recently been regarded as an inflammation in the movable parts of the skeleton secondary to disease in a tonsil, tooth or other focus. The conception of all joint disease being due to pathology in tonsils or teeth was soon recognized as too narrow. Other structures, the gall bladder, the prostate and the colon were included as foci. Then it was discovered that the arthritic's whole body is more subject to infections, particularly streptococci, than the normal. Pemberton pointed to "foci" such as dead teeth, developing during the course of arthritis, the result of the arthritic process rather than its cause. Pelouze speaks of prostatitis developing as a result of the arthritic's generally lowered resistance. Both Pemberton and Pelouze emphasized the susceptibility of the tissues in general to the variable agents precipitating arthritis. They emphasize the importance of the soil rather than the seed (infection).

Arthritis is a disease involving all the tissues of the body but electing to usually show itself by disturbances in the joints. The more active the condition the more likely will persistent, skillful blood cultures disclose a bacteremia. The bacteria can lodge and grow in any favorable tissue. Physical examination shows the arthritic's body altered in structure or function in nearly all its tissues.

The skin is usually pale and sallow. There may be petechiae. The nails are dull and ridged by close set longitudinal lines.

The eyes may show a complicating iritis or choroiditis. Peripheral neuritis adds to the patient's disability. Neuritic pains, areas of a paresthesia or analgesia, even atrophy are now regarded for what they often are: variations in the arthritis picture.

The pulps of the teeth are especially susceptible to the arthritic agent. This has a practical bearing on the treatment. The status of the teeth must be occasionally reviewed in the patient once affected with any arthritic manifestations. Death of teeth during the disease may be the factor retarding the patient's recovery.

The arthritis patient tends to develop secondary anemia. This is proportional to the injury done to the erythropoietic centers by the causal agent of arthritis, probably a toxin of the invading streptococcus.

Bone is especially prone to change in arthritis. We may call it a bone disease as justly as joint disease. Bone is the most prominent constituent of the joint. It feels the effect of the disease early and shows it by overgrowth and atrophy. The deformity, the most striking and frightful feature of the disease, is largely contributed by bone.

*Paper read before the Arthritis Club of Chicago, Dec. 9, 1931.

The bony attachments, tendons, ligaments, joint capsule and cartilage are most intimately involved in the arthritic change. They swell or shrink, stretch or contract, adhere or separate to make the afflicted person more grotesque and immobile.

The voluntary muscles are involved early. Myositis in the form of lumbago may be the only manifestation of this protean ailment. They frequently atrophy or become fibrosed secondarily. One of the troublesome complications is the protuberant abdomen, largely a function of the weakened abdominal muscles. Goldthwaite and Osgood consider this postural deformity important in maintaining the arthritic condition. In this distended abdomen the colon balloons and the splanchnic vessels remain filled with blood. These workers have elaborated special exercises to correct these faults.

Heart muscle injury is not infrequent. The disease itself may run its course as myocarditis with joint complaints negligible or absent.

Swift has described a pneumonitis occurring in rheumatic fever. I am now studying such a condition in a patient with rapidly progressing atrophic arthritis with marked infectious features.

Pleuritis occurs occasionally during the course of arthritis. It is usually exudative. Some patients exhibit the findings of fibrinous pleurisy subsiding later or going on to the formation of fluid exudate.

The spleen becomes tumorous. This is easily recognized in the juvenile forms of arthritis. Later fibrosis and hardening replace tumefaction and softening.

The gastrointestinal tract is especially affected in arthritis. Fletcher has called attention to the almost pathognomonic behavior of the colon in chronic arthritis. It is distended, atonic. The haustrations are much reduced. A similar condition is seen in the gall bladder with its slow filling and emptying. The appendix retains the barium unusually long. Indeed the gall bladder and appendix have frequently been excised as foci, often with benefit. Infections of the crypts of Morgagni have come to attention as foci. They are remarkably common in arthritis. Herrold and I called attention to the large part played in arthritis by streptococci in the flora of the lower bowel, especially next the warm, moist wall of the colon.

Pemberton is responsible for the recognition in arthritis patients of an abnormally high blood sugar curve following the ingestion of carbohydrates. In an early work we showed that all chronic infections shared this metabolic phenomenon. The significance of this so-called lowered sugar tolerance is not yet clear. It may indicate dysfunction of the pancreatic islets or inability of the body cells to utilize glucose.

Patients with chronic arthritis often give low basal metabolic readings. Probably many of the body structures contribute to the maintenance of the metabolic rate. Because of the striking effects on the metabolic rate of thyroid dysfunctions low metabolic estimations have frequently been assumed to mean decreased activity of the thyroid gland. The predisposition of females to chronic joint disease still further involves the endocrine system in arthritis.

The importance of the gastro-intestional changes in arthritis is emphasized in therapy. An intimate connection between disorders of the colon and arthritis has long been recognized. Colonic massage and lavage help those patients showing a relation between disease processes in the bowels and disturbances in the joints. Physiological massage by exercises strengthening the diaphragm and external abdominal muscles, nonsurgical drainage of the gall bladder, attempts to change the bowel flora by diet or direct inoculation of acidophilus or Bulgaricus bacilli, catharsis as advocated in the older castor-oil treatment or Colonel Ridlon's senna tea, detoxification with ricinic acid, resection of the colon as inaugurated by Lane upon Metchnikoff's suggestion and recently revived by the Mayo clinic, all have and have had their advocates.

The involvement of the vasomotor apparatus has recently been recognized in arthritis. Cold extremities have always been complaints of joint sufferers. The feet and hands of these sufferers are frequently bluish white, cold and moist. The capillaries in the finger tips of the patient with chronic arthritis are dilated and tortuous. These patients have pallor and are especially susceptible to changes in temperature. Pemberton succeeded in producing spurs on the patella of a dog by ligating the vessels supplying this bone. Massage and heat exert favorable effects apparently through giving tone to the peripheral vessels thus stimulating the flow of blood. Recently

sympathetic ramisections have been done to increase the blood flow in the vessels of the limbs.

Positive blood cultures can be obtained in the majority of cases. Cecil was the last to emphasize this fact. We have been able to confirm his work by finding streptococci in the blood cultures of the majority of patients with atrophic arthritis. This renders understandable the generalized character of the changes in arthritis.

This comprehension of the many effects of this disease is necessary to a proper approach to its therapy. In the majority of instances no one "trick," be it vaccine, colonic lavage or removal of foci is likely to solve a problem having so many ramifications.

TULAREMIA IN CHICAGO: REPORT OF SIX SURGICAL CASES*

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AND
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Due to the high cost of beef, and the hard times of the past winter, rabbits have become a staple article of food for many members of our population, and infection resulting from the handling of wild rabbits brought to market has increased to a great extent.

In Dayton, Ohio, Simpson canvassed the market district, and found sixty-one cases of tularemia. Here in Chicago, up to 1929, but five cases were reported to the health department. In 1930 nine cases were reported, and in the first three months of 1931, 12 cases have already been reported. I am sure from my own investigations among butchers here that many cases of tularemia have occurred without a definite diagnosis as such having been made, either because the patients did not present themselves for treatment or because the disease was not recognized.

In my private work, and on my service at the Cook County Hospital, I have observed six cases of ulcero-glandular type of tularemia during the past winter. While this disease is present all the year round, we in Chicago may expect to see the disease only during the open hunting season for rabbits, which is during November, December, and January.

The initial lesion is usually a papule on the finger, at the site of a scratch or bruise which breaks down and ulcerates. A secondary lymphangitis supervenes, and in the course of the following several weeks the axillary or antecubital glands become involved. These enlarge and suppurate and require incision and drainage. There seems to be some difference of opinion with regard to this procedure, however, as three of my patients were advised not to have the glands incised. This has arisen from the fact that in some cases the glands were incised before suppuration was advanced far enough, and a sinus persisted until all of the gland had broken down. One of my cases applied hot fomentations until the abscess ruptured spontaneously. In two others, the abscesses were far advanced and had dissected out the axillary vessels and nerves, and had invaded the tissues under the pectoral muscles.

The initial lesion is a well defined ulcer with sharp edges, and a clean, reddened base which heals very slowly. It resembles the primary lesion of syphilis. Sometimes, as in one of our cases, many nodules in linear arrangement appear along the arm and simulate sporotrichosis. The prolonged febrile reaction with glandular involvement suggests tuberculosis. The more acute cases remind one of typhoid fever. The direct diagnosis is made by the blood agglutination test. The organism is difficult to cultivate from the purulent secretions.

Tularemia is a specific infectious disease due to bacterium tularense and is transmitted from rodents to man by the bite of an infected blood-sucking insect or by handling and dissection of infected rodents by market men or laboratory workers.

It was discovered in a general survey of diseased rodents in Tulare County, California, whence it derives its name. It was found originally by McCoy and Chapin in the Western states in 1911. McCoy published a description of the disease in ground squirrels in California in 1911, and showed the transmission to mice, rabbits, gophers, guinea pigs, and monkeys, but was unable to find any organisms in the lesions. In 1912 McCoy and Chapin isolated the germ and grew cultures of it on egg-yolk. During the experimentation with the new disease, Chapin himself became infected, as were also six workers in the Public Health service at Washington, D. C., and three workers in the Hygienic Lab-

*Read before the Chicago Surgical Society, April 3, 1931.

oratory at Washington during 1920 to 1927. Experiments were then discontinued.

The disease is initiated by the bite of an insect, probably the blood-sucking horsefly chrysops discalis which previously had bitten a rodent infected with bacterium tularense. Transmission to man occurs through the agency of the deer fly, woodtick, mouse louse, stable fly, squirrel flea, grouse, bed bugs, handling infected animals with open wounds on the hand, eating undercooked meat of infected animals, or by inhalation (as in laboratory workers). Transmission from man to man probably does not occur (although there is a case on record in which a mother became infected from dressing her child's wound through a scratch on her hand). Trained laboratory technicians working under extreme precaution became infected, and it is remarkable that not more handlers are infected.

Early experiments with the horsefly and rabbit showed positive transmission. The organisms were found to be present in the urine and in the nasal secretions. Transmission from rabbits to rabbits occurs by the louse Haemodipsus ventricosus. The virulence of infection is lessened by the length of time present in the rodent.

Laboratory tests. A specimen of sterile blood is obtained from the veins of the arm. Glycerine is added for preservative if specimen is to be sent a great distance. Agglutinins appear in the patient's blood from the 12th-14th day of the disease. The maximum titer appears by the 4th-5th week and lasts through life. The bacterium tularense is a small rod or round-shaped organism .3 to .7 u in length, .2 to .3 u in width, and is encapsulated. Stains fairly well with carbol-fuchsin, gentian violet, or Giemsa's stains; it shows up well when stained for a prolonged period.

The organism is found in the heart's blood, liver, spleen, and lymph glands. In stained preparations the organisms are found in the clear unstained areas. It is best cultured on serum glucose cystine hydrochloride agar and serum glucose cystine agar. Colonies appear in 24 hours. On other media it takes weeks to culture and the virulence is low. It is best to add rabbit's spleen to the media.

Guinea pig inoculation with pus taken from the lesion, is ground in mortar with saline, strained, and injected into the abdomen. The pig dies in two weeks and shows caseation of the inguinal glands and multiple foci of necrotic areas in the liver and spleen.

It is very difficult to culture the organism from human blood.

Pathology. The first autopsy in a case of tularemia was performed in 1924 by Sellinger, and showed nodules in the lungs, soft pulp in the spleen, with yellow-white nodules, necrosis and increased fibrous tissue. The suprarenals show yellow and gray translucent areas. The enlarged lymph nodes show many yellow foci with mononuclear cells and polymorph infiltration and necrotic areas. The endothelial cells of the blood vessels become infected and the bacterium tularense is found in all the vessels of the body. An obliterative endarteritis forms. The lesions resemble those of tuberculosis.

One attack renders an immunity that lasts for many years in man. Immunity is not so marked in animals. There is only one case recorded in which re-infection recurred.

From 1924 to 1928, 936 cases have been reported.

O'Hara's Disease in Japan and tularemia are identical.

Clinical Features. The disease begins with an incubation period of 2-5 days. The onset is sudden while the patient is working and usually commences with a headache, chills, body pains, vomiting, prostration, and fever. Where the infection starts from a bite, the patient complains of pain in the lymph glands draining the infected area. These glands become tender, swollen and inflamed, and then suppurate, requiring incision. The fever is septic in type and lasts from 3-6 weeks. Convalescence is slow. Over the initial lesion on the 3rd day a black, necrosed center forms and sloughs out, leaving a permanent scar.

Direct Diagnosis is made on—

1. A history of contact, a bite, or handling infected rodents, or occurrence in laboratory workers.

2. Guinea pig inoculation with the autopsy of guinea pig.

3. Agglutination of patient's serum, with bacterium tularense. The agglutination test alone is not definite because certain sera agglutinate both B. tularense and B. melitensis.

In a differential diagnosis one must consider typhoid fever, septic infection, glanders, anthrax, and sporotrichosis.

CASE REPORTS

TULAREMIA—SIX CASE REPORTS OF SIMPLE GLANDULAR TYPE

Case 1. H. K., male, butcher, aged 45 years, presented himself December 24, 1930, giving the following history: He had been dressing rabbits for the market for the past fifteen years. For the past three weeks he had pain in the left axilla. Four weeks previously he scratched his finger and a few days later noticed that it became sore and painful. He then developed a fever of 102.8° and lost appetite. He became constipated and languid, and could raise his left arm with difficulty. A swelling appeared in the left axillary region to which he applied hot dressings. The ulceration of the left index finger became larger, and was very tender and painful and exuded a slight amount of pus. He slept poorly and perspired freely at night.

Examination revealed a well developed male, somewhat pale and weak. There was a large fluctuating mass in the left axillary region. Over the middle phalanx of the left index finger there was an ulcer ½ inch in diameter, with raised, clean cut edges, and a reddened base. The blood examination showed a red count of 4,210,000; hemoglobin 70%, leucocytes 10,500; polymorphonuclears 75%; lymphocytes 23%. Agglutination was positive for B. Tularense, B. typhosus, negative for paratyphoid A and B and B. Militensis. The pus obtained from the axillary abscess showed no growth on ordinary media in 48 hours. The urine showed a trace of albumin.

The axillary abscess was incised and seven ounces of a thick yellow purulent material was evacuated. The abscess cavity had dissected under the pectoral muscles and upward toward the axilla. It was packed with iodoform gauze after being irrigated with Dakin's solution. The temperature gradually returned to normal in seven days and the cavity had completely healed in 14 days. The ulcer on the finger was gently curetted and swabbed with 4% tincture of iodin. It gradually healed in ten days, leaving a scar. The patient was discharged cured after two weeks.

Case 2. B. R., male, aged 45, butcher, Russian, early in December, 1930, while dressing wild rabbits for market, cut the left index finger on a nail. Two days later he developed temperature of 102° with chills. The finger became sore, and an ulcer developed at the site of injury. The axillary glands became swollen and painful. The fever continued for four days and patient lost appetite and eight pounds in weight during the succeeding six weeks. His physician advised hot dressings to the axilla. The ulcer on the finger healed slowly, but the swelling in the axilla became more marked. Softening of the glands with fluctuation appeared during the 7th week. There was a slight rise of temperature daily to 100°-101°. The patient became weaker and suffered from night sweats. I saw him during the seventh week of the disease when an examination revealed a large fluctuating abscess in the left axilla; movement of the left arm was painful. A healed scar was present on the index finger. Laboratory examination revealed a red blood count of 4,000,000, white blood count of 8,000; hemoglobin 70%; blood agglutination tests positive for B. tularense, but negative for B. paratyphoid A and B, typhoid, Militensis and abortis. The urine showed a trace of albumin.

Under ethylene anesthesia, the axillary abscess was opened January 27, 1931, by an incision running parallel to the outer edge of the pectoralis major muscle, and four ounces of a thick yellow pus evacuated. A culture of the pus on ordinary media was negative. Digital examination revealed a cavity four inches long and two inches deep extending up into the axilla and dissecting out the axillary vessels. An iodoform drain was inserted and the cavity gradually healed in from below during the succeeding two weeks. The temperature returned to normal in four days, and the patient rapidly gained in health and was discharged cured on February 10.

Case 3. C. J., negro male, aged 17 years, entered the hospital Jan. 12, 1931. His occupation was that of butcher's assistant, dressing chickens and rabbits. He complained of swellings on the extensor surface of the right elbow which had been present for one week. Had had fever for two or three weeks. He had been dressing rabbits for the past three months, and first noticed a small nodule on the index finger of the right hand one week after starting work. This remained for one month. Eleven weeks later he noticed the swelling at the elbow. He now has temperature of 102.8, pulse 92, respiration 22. There was a glandular swelling at the elbow. He now had temperature of 102.8 temperature varied from 101° to 104°. The lesion on the finger was ulcerated and after four days of hot dressings the gland at the elbow began to undergo softening. The blood showed a positive agglutination for B. Tularensis in dilution of 1-180.

In two weeks the anticubital gland was incised and drained. The temperature now became normal. A large gland now appeared in the axilla and another on the flexor surface of the right arm over the biceps muscle. Both fluctuated and were incised and a moderate amount of yellow pus obtained. This case resembled sporotrichosis in that a number of nodules appeared in a line along the arm. Healing of all lesions occurred in the following two weeks.

Case 4. J. S., female, 43 years of age, colored, entered the hospital January 6, 1931, with an ulcer, involving the left forefinger, which had been present for five weeks. Pain and swelling of the left axilla had been present for four weeks and nodules along the arm for three weeks. While washing dishes five weeks before entrance, the patient injured the forefinger of the left hand, and a blister appeared at this site. She opened this with a needle and during the following three to four days developed chills and fever. About the same time the patient handled same rabbit skins. Following this the axilla began to swell and became painful. During the following week several nodules appeared on the forearm and arm. Constipation was present and vomiting occurred.

The blood gave a positive agglutination test for Tularemia in dilution of 1-640. The red blood count was 4,900,000. White blood count 5,350; polymorpho-

nuclears 62%; lymphocytes 38%. Urine analysis was negative; Wassermann negative. The ulcer on the finger was clean cut and tender and gradually healed. The mass in the axilla attained the size of a small orange and rutured spontaneously, draining a moderate amount. The patient left the hospital with some enlargement of axillary glands in stage of healing.

Case 5. S. S., white male, aged 23 years, entered the hospital January 2, 1931, complaining of swelling of the left arm above the elbow. The patient is a butcher who struck his hand two months prior to entrance on an icebox. He was dressing rabbits at the time, and noticed some swelling of his finger during the following three weeks. After this time he developed chills, fever of 102°, and vomiting, and the arm became swollen near the elbow. He was compelled to stop work on account of the severity of his symptoms. His doctor advised hot dressings to his arm and hand. He showed, on entrance, a temperature of 100.2°, pulse 100, respiration 20. There was a swelling just above the elbow on the medial surface, which was soft and tender. The axillary glands on this side were enlarged and tender. He complained also of headache and malaise, and suffered with night sweats. There was a loss of 10 pounds in weight. A blood agglutination test for Tularemia was positive in 1-1280 dilution. He was allowed to go home for further treatment.

Case 6. Colored, adult, male, assistant to butcher in dressing rabbits, developed chills and fever and swelling of axillary glands. He applied hot dressings to his axilla until the abscess ruptured and drained freely. He made a gradual recovery. This case was in the butcher shop of Case No. 1, and did not consult a doctor. The diagnosis is not confirmed by agglutination test, but is made by the butcher and patient himself because of the similarity of their symptoms.

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EDEMA OF THE LARYNX: ITS ETIOLOGY AND TREATMENT*

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Edema of the larynx is the most frequent cause of acute laryngeal obstruction. It necessitates immediate and skillful management. Although such edema frequently appears to be a definite clinical entity, it is usually an objective symptom or complication of a more extensive disease. It may arise because of a non-inflammatory or inflammatory condition, occurring within the larynx itself. It may be secondary to inflammation or disease of structures adjacent to the larynx, or it may be associated with certain general or systemic diseases.

Diagnosis. To establish an exact diagnosis of the laryngeal obstruction, is of utmost importance for determining its etiology and, therefore, its proper and efficient treatment.

A *history* of the mode and rapidity of onset of acute laryngeal obstruction, the sequence of events leading up to the onset, the absence or frequency of recurrences, and presence of diseases or conditions which might be related to such a crisis, are of considerable importance.

Indirect examination by use of the laryngeal mirror, if at all possible, will frequently give information of location of the edema or obstruction—epiglottic, supraglottic, glottic or subglottic, the presencee or absence of membrane, and the presence or absence of an unsuspected foreign body. At least some information may be obtained in either the home or the hospitalized case if this method can be used.

Direct examination by use of the laryngoscope is practically possible only in hospitalized cases. More information becomes available than the indirect mirror would give. An impacted foreign body could be quickly diagnosed and easily removed, membrane or tenaceous secretion aspirated, and, if advisable, direct intubation performed.

Roentgenologic examination, particularly in suspected foreign body case or in retropharyngeal abscess, is of considerable value. It may also give evidence of an early lung involvement.

A culture of larynx, preferably by direct contact with laryngeal tissues, is of utmost importance in all inflammatory conditions involving the larynx.

General examination, particularly of the chest and heart, either before or after emergency treatment, may reveal a pneumonia or a cardiac disease as a cause of the acute dyspnea.

Certain particular symptoms are of importance in determining the condition of patient.

1. *Inspiratory stridor* may be mild or intense, with little or much indrawing of suprasternal, epigastric and intercostal spaces.

2. *Ashy gray (or pale) cyanosis,* so frequent

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in acute laryngotracheitis or laryngotracheobronchitis, is observed much earlier than the typical blue cyanosis. Its gradual development over a period of hours or days is of grave significance. It indicates that the patient is being slowly and surely exhausted by the prolonged struggle with the obstructed airway, added to the increasing general toxemia. Such an ashy pallor is of greater significance for intervention than the blue cyanosis which frequently occurs too late to save the case.

It has often been pointed out that the degree of respiratory embarrassment is not always indicated by the patient's color. The color of the lips may be pink with extreme laryngeal obstruction.

3. *Restlessness,* even though present in mild degrees of obstruction, is significant. Increasing restlessness is a danger signal.

4. *Temperature,* if absent, would suggest either a very localized inflammation without systemic absorption or the presence of a foreign body. Temperatures of 102 to 103 degrees indicate a less localized inflammation, and if rising higher, indicate an increasing general toxemia.

5. *Pulse,* rate and quality, signify much in the progress of the disease and for the mode of its treatment. A gradual and steady increase in the rate and a weakening in quality, indicate an unfavorable course. It is then a very significant danger sign.

6. *Respiratory rate,* if increasing, and becoming shallower, indicates that the respiratory system is not able to supply sufficient oxygen to keep the circulatory system functioning efficiently. It is, therefore, the inadequate oxygenation plus the laryngeal obstruction, plus the general toxemia which throws such a terrific burden upon the heart. It is not the asphyxiation, but rather the severe exhaustion and cardiac strain which are so serious.

ANATOMY OF LARYNX AND ADJACENT REGIONS

A consideration of the anatomical structure of the larynx and adjacent regions, particularly of the submucous and underlying tissues and the intermuscular fascial planes, will demonstrate a considerable difference between the very young child and the adult. It is well known that, in the young child, the lymphatics are richer and the mucous membrane more loosely attached to the underlying tissues in the arytenoid regions, the aryepiglottic folds, ventricular bands and the subglottic region, than in the adult. Therefore, little injuries, manipulations or inflammations in the very young child's larynx, will cause edema more quickly and more profusely than in the adult.

EDEMA CAUSED BY CONDITIONS WITHIN THE LARYNX

Non-inflammatory.

1. Inhalation of steam, irritating gases, smoke and vapors. More frequent during war and in industry, and therefore, occurs in adults. Occasionally hospitalization is necessary. If the edema is severe it frequently involves more than the larynx and descends to the trachea and smaller bronchi.

2. Swallowing scalding and corrosive fluids. The problem concerned involves the esophagus more than the laryngeal tissues.

3. The injudicious application of caustics to the larynx. The use of strong solutions of silver nitrate in the larynx already highly sensitive, should be condemned.

4. Foreign body impacted in larynx. It is well known that the larynx may tolerate an overlooked foreign body. When such a body is of sufficient size and so situated as to cause an increasing edema with consequent obstruction, blind methods, such as indirect intubation for relief of the dyspnea, may result in the aspiration of the foreign body. The simple problem then becomes one of greater consequences. Therefore, if possible, a preliminary indirect mirror or direct laryngoscopic examination should greatly simplify the case.

5. Malignancy of larynx.

EDEMA CAUSED BY CONDITIONS WITHIN THE LARYNX

Inflammatory.

1. *Acute Laryngitis.* Edema is rare in simple cases. Acute laryngitis in which edema occurs, may be divided into three groups: (a) Edematous, in which a serious infiltration occurs in the underlying tissues; (b) Phlegmonous, in which the infiltration is purulent, and (c) Membranous, in which a rather definite membrane is attached to part or all of the larynx.

a. *Edematous.* This type is usually associated with a descending so-called streptococcus

sore throat. In swelling of the aryepiglottic folds, they may be almost in contact in the midline, and the epiglottis so edematous as to hide most of the edematous aryepiglottic folds. The mucus may be thick, tenaceous, and at times abundant. Various degrees of edema occur. The same picture is seen in edema of the larynx associated with inflammations of adjacent structures.

b. *Phlegmonous.* Edema may quickly produce asphyxia. Tracheotomy, followed by incision of areas containing pus, should be performed early before great destruction of the underlying cartilaginous structure occurs.

c. *Membranous,* Diphtheritic and non-diphtheritic. The differential diagnosis between diphtheritic and non-diphtheritic laryngitis, is frequently difficult because of their clinical similarity. Cultures from throat and larynx and direct laryngoscopic examination are frequently necessary. Membrane usually appears in diphtheritic laryngitis while in non-diphtheritic, the accumulating thick secretion may be mistaken for membrane. Edema is uncommon in diphtheritic and usual in non-diphtheritic, especially in the subglottic region. The membrane in diphtheria usually extends downward over subglottic tissues, prevents phonation, and if in sufficient amount, produces great laryngeal obstruction. In the non-diphtheritic type, the subglottic, and to a less extent the supraglottic tissues, are edematous. This rarely prevents phonation. The cultures in non-diphtheritic cases are negative for bacillus diphtheriae, but are positive for one or more of various types of organisms, such as staphylococcus, aureus and albus, streptococcus hemolyticus, pneumococcus and others.

2. *Acute Laryngotracheobronchitis.* A descending nasopharyngeal infection of a severer type than causes involvement of the larynx only, descends to the trachea and bronchi and may at times reach the smaller bronchi, ending in a fatal bronchopneumonia. Hemolytic and non-hemolytic streptococci, pneumococci, influenzal bacilli or mixed infections, are the organisms found in culture from various types of cases of laryngotracheobronchitis.

This disease, usually occurring in children, develops in the course of an acute respiratory infection, occasionally in isolated cases, but usually in epidemics, as a complication in measles or in the presence of vegetal foreign bodies in the bronchi. The hyperemia is general and involves both the mucosa and submocosa, particularly the loose subglottic tissues. It is the obstruction in this subglottic area which demands early relief by intubation or by tracheotomy. Early, in the non-exudative stage, the secretion is scant, the cough dry and the temperature low. As the exudate increases in amount, it becomes thicker and more glue-like in consistency—more mucin, desquemated epithelial, lymph and pus cells.

It has been observed that the prognosis in these cases depends much upon the duration of this dry, non-exudative stage. The slimy, sticky secretion interferes so much with ciliary action that accumulation and plug formation occurs. Here the respiratory efforts are not sufficient to relieve the obstruction and asphyxia may occur early if not mechanically relieved.

After continuous effort by the child, over a period of hours or days, in attempting to get sufficient oxygen to the lungs through the obstructed airway and to expel the accumulating secretion and plugs, exhaustion becomes profound. The continuous effort, the restlessness and sleeplessness, and the insufficient oxygenation in addition to the general toxemia, lead to early cardiac exhaustion and failure unless timely relieved. Even then the mortality of these cases is about forty per cent.

During 1930 a limited epidemic of such cases occurred in and about Peoria. The less severe cases, numbering perhaps thirty or thirty-five, with little laryngeal edema, which could be treated expectantly, were usually diagnosed as a croup or flu. In my own practice, I saw seven severe cases, all hospitalized. The mortality was forty-four per cent. This does not include vegetal foreign body cases.

Vegetal laryngotracheobronchitis closely resembles the acute infective type of laryngotracheobronchitis. It is a serious type of septic bronchitis, due to aspiration of vegetal foreign bodies. It occurs in children and its etiology is easily overlooked.

TREATMENT

The treatment of acute laryngeal obstruction due to edema, varies according to the type of case. It necessitates a careful preliminary examination and determination of its cause. With-

out this, treatment may at times defeat one's most brilliant attempts.

If the degree of obstruction is relatively mild, expectant treatment may be sufficient. Such a course is safe only when the case is hospitalized, when special nurses are on duty who are experienced in laryngoscopic and bronchoscopic nursing, and when a physician is close at hand who can perform an immediate intubation or tracheotomy when most needed.

Proper room temperature, about 75 degrees F., proper humidity, a high intake of fluids preferably by mouth, removal of all sources of irritation and annoyance and absolute rest in bed, are essential. No narcotics should be used, particularly because of the tendency to inhibit the defensive cardiac and respiratory activity.

As soon as it is deemed advisable to interfere —when the restlessness, the pulse and respiratory rate increase, indrawing of the supra and infrasternal and the intercostal spaces increase, and the patient is in marked distress, do not let the patient's best chance slip away. An intubation or tracheotomy should be done without hesitation when once decided upon. It is far better judgment to do this early than too late, and thereby have the patient lose his only good chance for recovery.

Particularly, in acute *laryngotracheitis* or *laryngotracheobronchitis,* the strictest attention to every detail is of utmost importance. At best these cases prove most difficult to handle and the mortality is high.

I consider my most useful and trustworthy armamentorium in the order of their value, first, and of greatest importance, the eight or twelve hour special nurse who is prepared for nursing laryngoscopic or bronchoscopic cases; second, the old faithful bedside suction apparatus, for use any moment of the day or night, and third, the oxygen tank or tent. No critically ill patient of this type, can be treated properly outside of a hospital.

Those physicians who have struggled through long nights with these little tracheotomized patients, who beg for relief from this ever-forming thick and mucoid section, which accumulates in the larger bronchi and trachea, will appreciate the invaluable services of specially trained nurses. They are the ones who can quickly detect any change in the course of the case, and, because of their better knowledge than the average nurse, can save the surgeon much valuable sleep and unnecessary worry.

We use the suction apparatus as frequently as the secretion appears to be accumulating in the trachea, at the carina or about the tube. In the more severe cases, it is used as frequently as every five to fifteen minutes. The soft rubber catheter can be introduced quickly even to the carina with very little trouble. I have had new nurses on a few of my cases who were so pleased because they did not have to use the suction for the previous two to four hours that they permitted accumulation of plugs of secretion which nearly filled the lower end of the trachea. Two of the cases required an emergency bronchoscopy to remove these plugs. Therefore, I prefer the nurse to keep the airway, the plumbing, open by more frequent aspiration.

Position is important. We use a special type of rack, resembling a backrest, so the patient's head is low and the body slanting about a thirty degree angle. This angle can be varied easily.

Oxygen, I believe, is in certain cases, of much benefit. It is used through a cone or a tent, for five or ten minutes, at frequent intervals or continuously, as required. Since the air breathed by the patient, who is still restless and needs sleep, is nearly pure oxygen, it can readily be seen that less effort is required by the cardio-respiratory system to function. It also appears that inhalation of oxygen or oxygen and carbon dioxide, has a favorable action on the viscid, glue-like bronchial secretions. It seems to increase cilary activity and helps to make the secretions a little more liquid.

From the very beginning, fluid intake should be kept at a high level. Our best remedy for fighting the terrific toxemia, is fluids by mouth, if possible, by rectum (not so useful a route in some cases), by hyperdermoclysis or intravenously. Glucose has been our most suitable fluid.

Transfusion may help. Foreign protein has apparently been of some value in some physicians' hands. The antistreptococcus serum, the mixed respiratory vaccine (6 to 8 minims every 6 to 8 hours) and milk, have been used with varying success. I believe it should be used more frequently and early.

The use of digalen, starting as soon as the case was seen, has apparently been of some value.

In the earlier stages when the secretion has such a great tendency to dry, and the cough is agonizing, the internal administration of sodium bicarbonate, 45 grains every three hours, as suggested by Chevalier Jackson, is worthy of more attention.

The controversy, intubation versus-tracheotomy, need not to be touched upon here. Let it suffice to say that any other method than tracheotomy (except bronchoscopy when necessary) for removal of these continually forming mucoid, glue-like secretions, is not worthy of consideration.

Case 1. Boy aged 3½ years, referred by Dr. Maurer, exposed three days before admission, by kissing an aunt who had a "streptococcus sore throat." Eighteen hours before admission, patient complained of sore throat and severe earache. Five hours after this, breathing became harsh and some dyspnea developed. This condition rapidly became worse and physician transferred patient to hospital.

On admission, patient showed a marked ashy, gray pallor, as if in shock. Respirations were stertorous, indrawing of supra and infrasternal spaces increased rapidly, temperature little over 101 degrees, pulse feeble and rapid, and respirations shallow and rapid. Laryngeal examination showed marked congestion and edema of all structures, particularly subglottic tissues. Lungs were clear. Tracheotomy was thought preferable to intubation.

Six hours later, patient began vomiting. Temperature 102.6, pulse 130, respiration 28. Lungs still clear. In spite of continuous inhalation of oxygen, ashy, gray pallor not changed much.

Twenty-four hours after admission, 42 hours after onset, patient began having convulsions. Temperature 102, pulse 148, respiration 36. Three hours later, lungs began filling somewhat. Temperature 102.2, pulse 180. Patient passed out 1½ hours later, 48 hours after onset of symptoms, with pink lips and conjunctiva. (Streptococcus laryngotracheobronchitis with laryngeal edema.)

Case 2. Boy, 5 years of age, referred by Dr. Jenkins, went to bed the night before, feeling fine. Awoke 1 A. M. from sound sleep, having great difficulty in breathing. As the day wore on this became worse. Submaxillary and anterior cervical lymph glands had swollen to size of small hen's eggs, but gradually diminished during the day. At 3 P. M. breathing became markedly more difficult.

Examination on admission 5 P. M., 16 hours after apparent onset, patient had terrific difficulty in both expiration and inspiration, and made a noise like a frog croaking. He was able to talk rather clearly. Lips and conjunctiva were ashy pale. Examination of larynx showed marked edema of aryepiglottic folds and subglottic tissues. There was not much indrawing of supra and infrasternal spaces.

Oxygen tent, ice collar, digalen, fluids were begun. Next day, lips and conjunctiva were still pale, pulse was rapid and temperature 102.

A pediatrician, Dr. Sibilsky, was called in consultation. He set about forcing fluids by all methods and gave supportive treatment. The patient improved for the next 4 days, but died on the fifth day with cardiac exhaustion. Culture, streptococcus type. (Acute streptococcus laryngotracheobronchitis with laryngeal edema.)

Case 3. Boy 2½ years of age, referred by Dr. Maurer, gave a history of dyspnea, with attacks of cyanosis during a period of 5 days before admission. Mother thought child had aspirated some food before onset. However, patient had had a little head cold before this.

Upon admission, patient was extremely dyspneic, and nails and lips were cyanotic. Chest showed dullness, diminished breath sounds and loss of tactile fremitus over lower left lobe and loud rales were heard over entire chest.

Laryngeal examination showed considerable edema of arytenoids and aryepiglottic folds and some subglottic edema. Because of the history suggesting foreign body, a bronchoscopy was done. The tracheal wall was lined with a thick-tenaceous mucoid secretion, which diminished as the carina was approached, but was continued into the left main bronchus. The lower lobe bronchus was filled with cloudy fluid and some material which appeared caseous or necrotic. This material was aspirated. Right main bronchus was normal.

A tracheotomy was done an hour later. With oxygen, frequent aspiration through tracheotomy tube, fluids, etc., patient began improving. The next day, about 24 hours after admission, and six days after onset of symptoms, patient became rapidly worse. Chest showed few rales and no secretion could be aspirated, but patient became more cyanotic and died. (Acute laryngeotracheobronchitis, with edema of larynx probably of vegetal foreign body origin.)

Case 4. Baby 21 months old, referred by Drs. John Vonachen and Sibilsky. "Cold" 2½ days before admission. About midnight, 30 hours before admission, patient began having difficulty in breathing. This gradually increased and patient became very irritable and restless. Examination by the pediatricians, revealed asthmatoid wheezing throughout chest. X-ray showed no abnormal markings, no obstructive atelectasis or emphysema in lungs.

Patient was hospitalized and under oxygen tent for 36 hours. Temperature 102-103, rectal. Patient became cyanotic at times. Crys indicated increasing subglottic edema. Cough practically non-productive as is usual in these small patients. Breathing became gradually more difficult and periods of cyanosis more frequent. Indrawing of supra and infrasternal areas more marked. Tracheotomy done about 2 hours after my first visit. Much purulent tenaceous, slightly pinkish secretion, was

aspirated from trachea and larger bronchi, through No. 7 French catheter through No. 1 tracheotomy tube.

For the next two days, the patient was little interested in his surroundings. Nurses aspirated frequently day and night. On the 4th day, patient was in good condition, little suction was required and he bgan noticing his surroundings. Tube removed 3½ weeks after insertion. Discharged recovered 4 weeks after onset.

Comment. Space will not permit further description of cases. Altogether, including those of vegetal origin, I have observed 14 cases of this type during the past two years. The longest drawn out case required the closest care for 4½ months, during which time 4 life-saving bronchoscopies were done, and three special nurses had to take time out for recuperation. The patient recovered in perfect health. The shortest case took four days. The mortality in the non-vegetal cases was 42% and in those of vegetal origin, zero.

Cases of laryngeal diphtheria are described elsewhere.

EDEMA FROM REGIONS ADJACENT TO LARYNX

1. *Inflammatory.*

"Acute Septic Sore Throat" as a term in the literature, includes many conditions. For our purposes we shall review the more important of these throat diseases.

Peritonsillar abscess (Quinsy) may be divided clinically into three types. The *first type,* occurring above the middle of the tonsil and external to it, produces little edema and infiltration of the pharyngeal wall and little or no edema of the aryepiglottic fold on the involved side. The *second type,* below the middle and infiltrating the posterior pillar, burrows downward producing more extensive edema and infiltration of the pharyngeal wall and the aryepiglottic fold. The laryngeal edema may be so intense as to completely obstruct the glottis. The *third type,* external to the tonsil and pointing anteriorly, also produces much edema and infiltration of the pharyngeal wall and aryepiglottic fold on the involved side.

The treatment is incision of the abscess as early as pus is thought to be present. If incised too early, there is much danger of infecting new areas and producing an extensive cellulitis in the neck. Incision may be necessary externally. Ice collar or ice bag may be applied to the neck and chips of ice given by mouth. Tracheotomy is rarely necessary.

Retropharyngeal abscess, an abscess located between the posterior pharyngeal wall and the vertebral column, forms usually rather high in the postpharyngeal tissue in the child and rather low in the adult. Because the pressure is forward from above, the epiglottis is pushed downward and thereby tends to obstruct the larynx by pressure rather than by edema.

In the adult, *abscess in the pyriform fossa* or para-esophageal region produces edema and infiltration of the adjacent hypopharyngeal tissue and the esophagus, and also of the arytenoids, aryepiglottic folds and the epiglottis.

Case. A male, farmer, age 44, referred by Dr. Egan, who treated him for influenza three weeks before, began having difficulty in swallowing, with some pain about 52 hours before admission. About 20 hours before admission, patient became unable to swallow anything, even fluids. Breathing became more difficult and patient found it was necessary to push head and chin markedly forward to get air to lungs.

Upon admission, loud and rough expiratory wheezing, somewhat ashy color of mucosa, temperature 103 degrees, pulse 112, respiration 30, W. B. C. 25,600, smear and culture of throat, streptococcus and diplococcus, negative to vincents and Klebs-Loeffler. Patient was in great distress, anxious, extremely restless and gasping for air.

Examination revealed a moderate anterior and posterior cervical adenitis and no swelling in tonsillar region, tongue or pharynx. There was extreme tenderness to right and posteriorly to larynx. With laryngeal mirror a large bluish mass, more on the left than on the right, filled nearly two-thirds of the region above the larynx. On the right starting about at the upper level of the larynx, the pharyngeal mucosa was very dark, markedly injected and pressed against the edematous aryepiglottic fold on that side. At operation, the esophagoscope was passed downward with much difficulty to the site of the upper border of the cricopharyngeous muscle. The mass, which at this point pushed the larynx to the opposite side, was incised. About 45 cc of pus poured out of the incision and passed down the esophagus. Then the edematous left arytenoid was incised. There appeared to be a small amount of pus deep in this mass.

Immediately after the operation, the patient felt great relief. Ice chips by mouth, ice collar, etc. Next day breathing was easier, the edema much reduced and patient could swallow water.

In relation to the above case, indiscriminate stabbing of edematous masses in the larynx may not only open up new avenues for infection, but

severe fatal hemorrhage has been reported in the literature.

Ludwig's Angina. The laryngeal edema is frequently intense in both the erysipelatous and abscess types. The epiglottis, arytenoids and aryepiglottic folds may, in the acute stage, become so intensely edematous as to cause asphyxia very quickly and without warning.

Case. Male, about 30 years of age, obese, referred by Dr. Harold Vonachen for difficulty in breathing. About 24 hours before examination, patient had had all teeth extracted under general anesthesia. About 18 hours after extraction, patient began having difficulty in swallowing and breathing. Respirations rapidly became labored.

Examination revealed marked induration of neck, submental submaxillary to angles of jaw, and in floor of mouth. Mirror examination revealed such extreme edema of epiglottis and arytenoids that no visible space appeared left for breathing. Patient was extremely dyspneic and cyanotic at times. Chips of ice in mouth, ice packs to neck, oxygen for five minutes at a time to relieve temporarily the frantic attempts at respiration, and adrenal in spray gave considerable relief within the next 12 hours. A tracheotomy tube was at hand for emergency, and specially trained nurses were in charge. Patient became delirious about one week later, but at the end of two weeks was discharged, recovered.

Intubation would have been useless in such a case. There was not space in the glottis for one. The tube would have caused trauma and this would have to be reckoned with later. Even though a tracheotomy might tend to spread the infection downward in the erysipelatous type, it would seem highly preferable where abscess formation will occur.

Inflammation at the base of the tongue produces edema of the epiglottis, but easily extends backward and may so severely involve the laryngeal tissues as to require tracheotomy.

2. *Malignancy and inflammations of the upper end of the esophagus* cause a variable degree of edema of the aryepiglottic folds and the arytenoids, particularly in the late stages of disease.

3. *Operations on structures adjacent to the larynx* such as the submaxillary gland and the thyroid gland. I have in mind a case of submaxillary stone in a fleshy patient, who began having some difficulty in breathing before reaching his room. A half hour later, the nurse left the room about five minutes. When she returned the patient had stopped breathing. The glottis was completely obstructed by the edematous aryepiglottic folds.

4. *Passive congestion* due to compression of the tributaries of the vena cava in cases of enlarged heart, enlarged peribronchial glands, mediastinal growths, acute lymphatic leukemia, Hodgkin's disease and goiter, produce dyspnea and edema of the larynx. Usually the edema occurs very late and may be terminal.

Case. Man, aged 35, diagnosis acute lymphatic leukemia, W. B. C. 54,000, small lymphocytes 84%, developed edema of the larynx about 36 hours before death.

5. *Pulmonary tuberculosis.* It is well known that laryngeal involvement is the most serious complication of pulmonary tuberculosis and that it occurs in 15 to 20% of all pulmonary tuberculosis. Laryngeal edema is most frequent in the interarytenoid and arytenoid tissues. Marked edema is of most serious import.

LARYNGEAL EDEMA ASSOCIATED WITH GENERAL DISEASES

A consideration of the factors concerned in the production of general and local edema, is out of the scope of this paper. However, a study of the following named factors in its production is of considerable interest: 1. reversal of the albumin—globulin ratio, 2. blood chlorides, 3. blood cholesterols, 4. specific exogenous and enogenous toxic agents and 5. passive congestion.

For lack of space it is advisable to merely enumerate the more important general diseases in which edema of the larynx may be associated. The factors involved are frequently different than in the types described above. The treatment of the edema will vary with the type of case and the etiology.

1. Contagious diseases in which a rather simple and uncomplicated edema may occur.
2. Angioneurotic edema.
3. Allergic.
4. Myxedema.
5. General cardio-vascular group.
6. Bright's disease in particular.
7. Diabetes.
8. Lues.
9. Overdoses of potassium iodide in susceptible patients. The edema will quickly subside

after the drug is discontinued and 1 to 2000 adrenalin administered.

SUMMARY

1. Laryngeal edema, producing acute laryngeal obstruction, is caused by or associated with a great variety of conditions and diseases.

2. It is the most frequent cause of acute laryngeal obstruction.

3. An early diagnosis of the cause is essential for the most efficient treatment of the laryngeal obstruction.

4. The degree of acute laryngeal obstruction has no direct relation to the seriousness of the condition or disease.

5. Tracheotomy is preferable, particularly in acute laryngotracheobronchitis, when secretions become tenaceous and abundant. Intubation may be preferable if edema is not great, if duration of intubation is short, and if tracheobronchial secretions are not tenaceous and abundant.

6. The prognosis is more dependent upon the general toxemia than upon the laryngeal obstruction itself, providing this is relieved fairly early,

319 Jefferson Bldg.

DISCUSSION

Dr. William A. McNichols, Dixon, Illinois: The immediate appeal of this paper by Doctor Sneller is personal to each member of the medical profession. Edema of the larynx is a condition which any of us may meet at any moment. If not recognized, edema of the larynx is fatal; only prompt and proper treatment may avert this fatal termination.

An unique feature of edema of the larynx is that despite its comparative rarity it is produced by such an amazing variety of conditions. This chart compiled by two Brooklyn Pediatrians in the February, 1931, issue of the *Archives of Pediatrics* is particularly simple and illuminating:

1. Inflammatory.
   - (a) Exposure to colds.
   - (b) Following grippe.
   - (c) Retropharyngeal abscess.
   - (d) Erysipelas of the larynx.
2. Systemic diseases.
   - (a) Renal.
   - (b) Circulatory.
   - (c) Exanthmata.
   - (d) Syphilis, cancer, tuberculosis.
3. Neurotic edema.
   - (a) Angioneurotic edema.
4. Traumatic.
   - (a) Foreign body.
   - (b) Inhalation of fumes.
   - (c) Acid poisoning.
5. Drugs.
   - (a) Potassi iodidum.
6. Pressure from without.
   - (a) Enlarged thyroid.
   - (b) Enlarged glands.

The greater number of my cases has been from foreign bodies. These, with an early tracheotomy were 100% successful. I have not found it necessary to do a tracheotomy on any case of Ludwig's angina. An external mid-line incision through the mylohyoid muscle was sufficient. This has also been true of the cases of retropharyngeal abscess, that is, simple drainage has relieved the dysnea. I have encountered only three cases that should be classified as laryngeal tracheobronchitis.

In these cases an emergency tracheotomy was done immediately upon my arrival, but all three died at intervals varying from a few minutes to a few hours. In a few cases of glandular swelling a tracheotomy was done with satisfactory recovery.

Restlessness is one symptom that cannot be overemphasized. Any individual suspected of obstructive laryngeal edema should not be given a sedative. An individual with air hunger is restless as he depends in part on his voluntary muscles to draw in enough air to keep him alive. When he falls asleep he loses control of these muscles and he awakes with a start of impending death.

I quite agree with Doctor Sneller in regard to treatment. Sprays may be of some value and other drugs in isolated cases may be thought to be of some aid. A case with true edema of the larynx either needs an early tracheotomy or removal of the causes of the edema.

Dr. C. D. Sneller (closing): As to treatment, particularly in the acute laryngotracheobronchitis cases with laryngeal edema, in which a tracheotomy has been performed, there should be nurses on the case who are trained in laryngeal and bronchoscopic cases. The suction apparatus for aspiration of thick, tenaceous secretion by way of the tracheotomy tube, the use of oxygen by funnel or oxygen tent, forcing fluids and other methods which fall under medical treatment, are all extremely essential in the successful treatment. In spite of such treatment the mortality is still about 40%.

THE ETIOLOGIC RELATIONSHIP OF CERTAIN GRAIN FUNGI TO ACRODYNIA, THROMBO-ANGIITIS OBLITERANS AND RELATED CONDITIONS*

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All of the cereal crops are subject to diseases classed under the general group, Ustilaginaceae (smut). The outstanding characteristic of all the grain smuts is that they nearly always destroy the head or grain of the wheat, rye, barley, corn or oats affected. There are more than 300 species of these grain parasites recognized of which 205 are found in the United States. It is estimated by F. L. Stevens and J. G. Hall[1] that 100,000,000 bushels of grain are affected annually by the development of smut on corn, wheat, oats, rye and barley.

The common corn smut (Ustilago Zea-Mays) develops on any part of the corn plant, but is usually more conspicuous on the ears and tassels. It has been reported that a certain type of poisoning occurred in cattle fed on corn badly contaminated with another smut parasite, Fusarium monoliforme, and that the disease resembled ergotism. (Koehler and Holbert[2]). Horses, cattle and hogs became thin, some of the hair dropped off, and finally the hoofs sloughed off. Cattle fed on corn rotted by diplodia infection developed paralysis.

Corn, which is the major farm crop in Illinois, holds the first rank in the number of diseases which attack it. Some corn diseases are very conspicuous as, for example, the various rots and smuts. There is a considerable number of other equally important diseases that weaken the plant but cause no conspicuous external symptoms.

Ergot, Claviceps purpurea, is a better known grain parasite. It occurs commonly on rye (Secale) and many other species of grass such as wheat grass, wild ryes, Kentucky blue-grass, Canada blue-grass, red-top, timothy and rye-grass. Occasionally it is injurious to wheat. The mycelium of the ergot fungus attacks the ovary of the plant while it is in bloom. The fungus invades and consumes the ovary and replaces it with the ergot which consists of a dense mass of fungoid, interwoven mycelium, a sclerotium. Cattle fed ergot-ized grain or grass become emaciated and rough-haired. There is a disturbance in the circulation through the extremities, and gangrene and sloughing of parts of the tail, ears or hoofs may occur. Abortion may also follow.

As is well known man is also poisoned by partaking of food (usually bread and other cereal foods) contaminated with ergot. French physicians have devoted particular attention to this condition. (Hirsch[3]). Thus under the title "mal des pieds et des mains", or erytheme epidemique" or "acrodynie" French physicians described a disease appearing in epidemic form in 1829 at several places in France, being very widely diffused in Paris, where 40,000 individuals were affected at one time. It showed many striking analogies with ergotism and with pellagra. The onset was usually marked by gastro-intestinal irritation, nausea, vomiting and dysentery. After a few days (5 to 12) formication and fleeting pain in the hands and feet, like the pricking of needles, sets in; often there was a very intense burning of the soles of the feet. Hyperesthesia existed over large areas of the skin, making the slightest pressure unbearable. After these manifestations of hypersensibility passed off the patients suffered from anesthesia in the soles of the feet, like that occurring in tabes dorsalis. Associated with the nervous symptoms there was usually an outbreak of an erythematous or erisipelas—like exanthem, which spread mostly over the hands and feet, but not infrequently over a large part of the extremities and even over some parts of the trunk. It was only rarely, in the case of old and enfeebled persons, that it ended fatally. Recovery was always slow and there was always a feeling of stiffness and some weakness present for some time after. Post-mortem examinations did not throw any light on the nature and seat of the disease. Children were more frequently affected than adults. The disease usually ran its course without fever and lasted from a few weeks to several months. A historical review shows that the French physicians have for a long time recognized a similarity between acrodynia, ergotism and pellagra.

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Corn may also be infected by ergot. Thus Roulin as quoted by Hirsch, reported the existence in Colombia of a disease of maize caused by the ergot fungus—mais peladero—by reason of which the corn acquired properties injurious to health. In man as a result of eating diseased grain the hair and teeth fall out; but there are never the nervous or gangrenous symptoms peculiar to ergotism. Animals such as pigs and mules suffer in the same way from eating ergotized maize; in these there has also been noted paresis and wasting of the hind legs.

Intoxication occurring in children with all the symptoms of acrodynia has been reported by E. Mayerhofer.[4] In the spring of 1929 he observed two children from the region of Zagreb, who presented all the manifestations of ergotism or acrodynia and who had been fed on contaminated corn. In the corn flour a large content of Ustilago maidis spores were found. The intoxication had the pharmacologic and toxic properties of ergotism. Mayerhofer has expressed himself as seeing a causal relation between corn-smut and acrodynia.

The various theories proposed at present for the explanation of acrodynia do not seem to be satisfying nor conclusive. Thus Feer[5] has suggested that the condition is a neurosis of the vegetative nervous system. This is considered plausible by many. Others on the contrary ascribe it to some unknown virus infection or even to a deficiency of vitamins. The pathologic findings in the few cases autopsied have been rather puzzling and unsatisfactory. It was rather surprising to the author to find that none of the pathologists had paid any particular attention to the condition of the peripheral blood-vessels. Most of the attention has been centered on the state of the nervous system with very puzzling and unsatisfactory results.

In this connection it is desirable to correlate other conditions which hitherto have been conceived to be separate entities such as Raynaud's disease, Buerger's disease (thrombo-angiitis obliterans) and Weir Mitchell's erythromelalgia which conditions have not been satisfactorily explained. Buerger's disease has been ascribed to excessive cigarette smoking among Jewish patients, particularly Russian and Polish Jews. It is of interest in this connection that these people are in the habit of consuming rye bread or "pumpernickel," which is preferred by them to white bread.

Robertson and Ashby[6] have reported on the symptoms of ergotism found among the Jewish people of Manchester as the result of eating rye bread. The general symptoms complained of were coldness in the extremities, numbness and lack of sensation in the fingers, a sensation like an insect creeping over the skin, headache, depression, gastric disturbances, shooting pains, twitchings in the limbs and staggering gait. None of the symptoms complained of were observed among that portion of the Jewish population who ate white bread. It was also found that the symptoms were much more pronounced in the Russian, Polish and German born Jews than in the English born Jews. The latter usually ate white bread, whereas the former found rye bread more palatable and economical. The rye grain examined at Manchester showed an incidence of 1% ergotized rye. It was found that the average Jewish person consumes about ½ pound of rye bread per day. When rye bread was discontinued as an article of diet the symptoms quickly improved.

Thus it is seen that symptoms of ergotism may be due to the somewhat free use of corn or rye contaminated with the Ustilago maidis or Claviceps purpurea. It is further noted that ergot may cause vascular, nervous, gastro-intestinal and atrophic changes.

The chemistry of ergot has been the subject of a large number of investigations. Numerous substances such as amines and alkoloids have been extracted. Dale[7] finds that the action of ergot is due to the presence of ergotoxine, tyramine and ergamine. More recently A. Stoll[8] has isolated a crystalline alkaloid, ergotamine tartrate ($C_{33}H_{55}N_5O_5$) which is a definite and chemically pure alkaloid and which has marked potency. It is a pharmacologic antagonist to adrenalin and inhibits the sympathetic nerve endings. It lowers the basal metabolism and causes a diminution in heat production and has a marked action on the uterine musculature. In a dilution of 1-2,000,000 it acts on the guinea-pig uterus and is thought to be the specific alkaloid of ergot. Human beings have been found to be more sensitive to its effects than animals.

In his experimental work on rats the author has observed the effects produced by the feeding

and injection of ergotamine tartrate. A solution of 2½ mgm. was injected twice weekly for three weeks and the drug has also been administered in the drinking water of the animals in the proportion of 0.001 gm. to 8 ounces of water. A series of 6 young white rats were used for the ergotamine experiments and there were 4 normal animals for control.

The treated animals seemed quieter than the controls. There was a definite cyanosis of the tip of the tail in all of the 6 rats. The cyanotic portion of the tail seemed very tender to the touch and the animals manifested marked discomfort when the tail was handled. A dry gangrene developed in the tail of one of the rats. There were no pronounced nervous manifestations observed thus far (one month observation). The temperature of the ergotamine rats was on the average one degree lower than that of the controls as measured by rectal temperature readings. The animals are still under observation and complete data with pathologic studies of the peripheral circulation are to be presented at a later date.

For the present it is merely desired to emphasize the fact that our various cereal foods are frequently contaminated with numerous varieties of fungi which may be etiologically related to such similar clinical conditions as acrodynia, Raynaud's disease, erythromelalgia, Buerger's disease and even pellagra. It is important to note that a large part of the infants' dietary is formed by farina, oatmeal, corn and other cereal products. The author was able to demonstrate the presence of *ustilago* spores in samples of corn meal bought at retail. Likewise rye and wheat flour were found to harbor these smut spores. Ustilago spores obtained from commercial corn meal were grown on sterilized corn meal media. They were then extracted with acid alcohol. The resulting product when injected into an adult rooster caused a blackening of part of the comb, thus demonstrating the ergot effect and vascular toxicity of the ustilago fungus.

There is much in medical history and literature in favor of this causal relationship between grain fungi and the vaso-motor conditions mentioned above. Although the complete equation of cause and effect has not been fully demonstrated in this brief report, it is merely desired to point out these very important facts and relationships. As to the ergotamine (Stoll) which is considered to be the pure principle of ergot the author thinks that it is merely one of the principles which acts on the vaso-motor sympathetic and that there may well be other chemical substances of a similar nature which may show neurotoxic properties and which as yet have not been isolated and which may explain other actions of the drug. Furthermore the different types of ergot seem to have somewhat different properties depending on the type of grain affected. This may explain the various minor differences in the clinical symptoms, in some the nervous manifestations being more pronounced and in others the vascular symptoms.

SUMMARY

1. The comparative frequency of fungus infection in our common cereals is noted. There are over 600 species of these grain parasites recorded of which 205 are found in the United States.

2. The manifestations of grain intoxication are described as found in the common domestic animals.

3. The question of ergotism is discussed and its clinical manifestations described.

4. The conditions of acrodynia, erythromelalgia, Raynaud's disease, Buerger's disease and pellagra seem in many respects similar and may be explained by grain intoxication due to fungi. The variations in the vaso-motor reactions may be explained by the variety of ergot constituents in the various cereal fungi.

5. The pure ergot alkaloid (Stoll) is described.

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CERVICAL PHLEGMON FOLLOWING LOCAL TONSILLECTOMY: REPORT OF FOUR CASES*

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Acute suppurative inflammation of a subcutaneous connective tissue following tonsillectomy is of infrequent occurrence, only one hundred and eleven (111) cases having been reported in the literature—with 21 fatalities.

This paper comprises a series of four cases seen at Cook County Hospital during my residency there with a discussion of the probable causative agent or agents producing such a complication. These four cases were the first encountered in that institution where an average of 3,600 tonsillectomies are performed each year, one-third being performed under local anesthesia.

Case 1. A colored man, aged 29 years, who re-entered the hospital six days after a local tonsillectomy had been performed. He complained of difficulty in opening his mouth and extreme soreness upon swallowing, especially on the right side of the throat. A large indurated, tender swelling was present on the right side of the neck, just below the angle of the mandible. The swelling extended from thel ower border of the digastric fossa to the level of the hyoid bone along the anterior border of the sterno-cleido mastoid muscle. The skin over the swollen area was normal in appearance. His temperature was 101.2 F., and the white blood count 15,600. A slight prominence of the right tonsillar fossa was noted at this time. External hot, moist dressings and irrigations with hot water inside the mouth over the region of the angle of the jaw were used. During the next three days the external swelling increased and a distinct bulging was present in the tonsillar fossa. A curved hemostat was then inserted through the right tonsillar fossa and considerable foul smelling pus liberated, which upon culture revealed non-hemolytic streptococcus, staphylococcus and fusiform bacilli. Within a week the symptoms had subsided except the trismus which did not disappear entirely until two months later.

Case 2. A girl, aged 22 years, was re-admitted to the hospital nine days after a local tonsillectomy has been performed. She stated that four days after the operation she experienced difficulty in opening her mouth. She was out of the city at the time and did not return until five days later. No treatment was used in the interval. She complained of considerable soreness upon swallowing in the right side of the throat and was able to open her mouth only about one-quarter of an inch. The temperature was 100.6 F., and the white blood count was 16,800. A moderate sized, brawny, tender swelling was noted in the right side of the neck, just anterior to the angle of the mandible extending from the upper third of the sterno-cleido mastoid to about level of the hyoid. External moist dressings and intraoral irrigations with hot water were used. The following day an incision was made through the right tonsillar fossa but no pus was obtained. During the next five days the external swelling increased until it had reached the level of the cricoid cartilage, and another incision was made through the tonsillar fossa and again no pus was obtained. Under gas anesthesia an external incision, one inch long, was made over the swollen area and a moderate quantity of pus was found deep in the tissue after insertion of a forcep. A culture of the pus revealed fusiform bacilli and non-hemolytic streptococcus. A rubber drain was inserted and after a week the discharge of pus ceased and the swelling gradually subsided. The trimus did not disappear completely until four months later.

Case 3. A girl, aged 16 years, was re-admitted to the hospital eight days following a local tonsillectomy. She stated that three days following operation she experienced difficulty in opening her mouth, and she noticed swelling on right side of the neck. The temperature upon admittance was 100.4 F., and the white blood count was 17,200. During the following three days the external swelling increased and some bulging of the right tonsillar fossa was noted. An incision was made through the tonsillar fossa and considerable foul smelling pus exuded. Considerable gas escaped upon opening the fossa. Culture of the pus revealed the same organisms as Cases 1 and 2, together with a so-called pseudo gas bacillus.

Case 4. A man, aged 36 years, re-entered the hospital five days after a local tonsillectomy had been performed. He complained of difficulty in opening his mouth and swelling on the left side of the neck, just below ramus of the mandible. The temperature upon admittance was 101.6 F., and the white blood count, 16,400. External heat was used for the next three days. An incision was then made through the left tonsillar fossa, but no pus was obtained. The following day, under gas anesthesia, an external incision was made and considerable pus was obtained. A rubber drain was inserted. All symptoms subsided except the trismus which lasted about ten weeks. Culture of the pus revealed essentially the same organisms as in the first three cases.

The onset of this complication was noted in all of these cases within three to five days following tonsillectomy. In each case difficulty in opening the mouth was the first symptom noticed and likewise was the last to disappear.

The symptom "Trismus" is no doubt due to an involvement of the internal pterygoid muscle

*Read before the Section on Eye, Ear, Nose and Throat, Illinois State Medical Society, East St. Louis, Ill., May 6, 1931.

and to a lesser degree the pterygo-mandibular ligament. That these special structures are injured or infected more often than the number of phlegmons following tonsillectomy would indicate is shown by the relative frequency of trismus following local tonsillectomy. I have seen several cases of trismus of this sort without any evidence of phlegmon or infection of any sort. These usually subside within a few days. Unfortunately the fluid used in injection was cultured only in the last two cases and these cultures showed a considerable number of colonies of staphylococcus albus. Two of these cases required external incision and drainage.

A detailed description of the anatomy of the palatine tonsil in relation to the pharyngeal wall will not be discussed here, however, a brief description of such relations will probably clarify the reasons why the complication being discussed may occur.

The palatine tonsil rests in the fossa between its two pillars.[1] On its lateral surface it is separated from the superior constrictor muscle of the pharynx by its capsule. Immediately lateral to this muscle is a large somewhat triangular space filled with loose, fatty tissue. This is the parapharyngeal space and it is bounded laterally by the internal pterygoid muscle, medially, by the lateral pharyngeal wall and posteriorly by the pre-vertebral fascia. The space is limited below by the sheath of the large vessels which pass through it and superiorly by the base of the skull. The space is divided by the styloid process with its attached musculature into the lateral pharyngeal space anterior and the lateral pharyngeal space posterior. These two spaces do not communicate. This probably explains why vascular involvement of the great vessels is not so likely in this sort of complication as the great vessels lie in the posterior compartment.

The contamination of this space during operation is no doubt the cause in the majority of cases where this complication arises. However, I am led to believe that this space is entered far more frequently during local tonsillectomy than the number of complications would indicate. Why this complication does not arise more often is to me a perplexing question.

Many plausible theories have been advanced as to the causation:

Hochfilzer[2] recently reported a case in which osteomyelitis of the mandible with sequestration occurred together with the phlegmon and he believed that certain saprophytic germs became virulent and caused the infection.

Chamberlin[3] in 1925 described a technic by which he defined the lateral limits of the tonsil by pulling the tonsil out of its fossa, thus producing a retro-tonsillar space. This method aimed at preventing passage of the needle through infected tonsillar tissues which is one of the main theories as to the causation of the complication in question. It is not always possible to define the lateral boundary of the tonsil either because of previous infection or because of an anatomical variation. Chamberlin has had one case since using this method.

Freer[4] believed that the main cause of the complication was trauma to the superior constrictor muscle, thus producing an area of lowered resistance in the part. This theory is not tenable in view of the fact that such a complication rarely arises after general anesthesia. There must be as much trauma produced under general anesthesia as under local anesthesia, and my initial figures tend to disprove this also.

Kaiser[5] reported one thousand (1000) tonsillectomies in children without such a complication.

Shapiro[6] claimed that contaminated instruments and contaminated solutions played a major role in the causation. He also believes that a curved needle is more likely to enter the parapharyngeal space than a straight one. I cannot believe that this last mentioned factor is a cause. The depth of the point of a straight needle is no easier to determine than that of a curved one. If the needle is inserted just under the pillar so that its outline can be seen fairly distinctly I believe that a curved needle is less liable to enter the parapharyngeal space. Insertion of a straight needle is much more difficult if inserted between the pillar and the tonsil and surely insertion of a straight needle through the pillar into the peritonsillar space is more likely to pass beyond its intended point.

It may be possible that an anaerobic infection of this space was present before the operation and was lighted up by the operation.

Some authors believe that operation too soon after a throat infection is a potent factor. None of the cases mentioned here had experienced a recent sore throat. I believe, however, that this may be a factor in some cases and certainly ton-

sillectomy should be deferred for at least two weeks after a mild sore throat, and four to six weeks after a severe tonsillitis or quinsy.

All of the causes mentioned are probable factors and I believe the most important factors to be two-fold. First, too deep an injection, that is, deeper than four millimeters. Second, contaminated solution. For this last reason I advise freshly prepared solutions of novocaine or whatever solution is used for anesthesia.

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DISCUSSION

Dr. Ralph H. Woods, LaSalle: I wish to compliment the doctor on this most valuable paper telling us what not to do. It has been my particular pleasure to have perused this paper prior to its presentation, and I think the essayist is to be congratulated on the selection of a topic so intensely practical, even though one of infrequent occurrence. The most valuable papers presented to any association are those that emphasize what not to do to avoid complications or disaster, but it requires considerable courage to present papers of this type and it is regrettable that so few have that courage.

Dr. Hayden's explanation of the etiology to my mind is quite satisfactory. In the larger hospitals solutions are made up in advance in quantities, and there is every possibility of contamination. Again, it is possible that the needle might be contaminated, possibly from the tonsil itself or from a previous patient. In private practice one should maek the solution fresh for each case. I use a 2 per cent. novocain which does not require a deep injection for a nerve block, nor does it require as much as when using a 1 per cent. solution; hence, less edema, less trauma and quicker healing. I tried out a solution of 1/1000 nupercaine (Siba) on four cases and all of them gave secondary oozing on the fourth and fifth days, evidently from delayed healing by devitalization. However, the anesthesia was wonderful.

The subject of abscess following tonsillectomy calls to my mind a large series of x-ray plates of lung abscesses displayed in an eastern hospital some time ago, all following tonsil operations under general anesthesia. The question in my mind at the time was, why? The operating rooms were right across the hall and at that particular period a number of tonsil cases were being operated on. In each instance the patient was on his back, in which posture there is every possibility of toxic material being aspirated. In one case I recall there was more blood than the suction apparatus would remove, giving origin to another possible accident.

Dr. F. B. Balmer, Chicago: Dr. Hayden emphasized my point in his paper when he referred to infection following the use of needles and also suggested the use of ligatures without the use of needles in avoiding infection. I have not had the misfortune of encountering a phlegmon following a tonsillectomy where either a general or local anesthetic was employed. The side position described was also referred to by Dr. Mullin as a factor in avoiding postoperative complications where a general anesthetic is used. May I emphasize again, that where a patient is on the side, blood or other material is not liable to be drawn down into the larynx or bronchi during respiration but is readily removed with the aspirating machine or allowed to accumulate in the buccal fossa or hollow of the cheek and removed when convenient. Further, the field of operation is not obscured at any time which permits of better work. Dr. Hayden is to be congratulated for his very fine paper.

Dr. J. W. Hayden, Chicago (closing): Frankly, I believe that contaminated solutions are the major cause in the production of these things. However treated, every solution of novocain or every needle is contaminated when it is used, when it touches the mucous membrane. It is very fortunate that more complications do not arise.

TRAUMATIC LESIONS OF THE UROGENITAL TRACT*

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The purpose of this paper is to point out some of the salient factors concerning traumatic lesions of the urogenital tract. One cannot emphasize too much the question of diagnosis. In the past we had to depend entirely upon the history of the injury plus the physical findings. In many instances external trauma is not present. Blood in the urine is the most common finding. Shock may or may not be present.

We believe, and will show in a lantern slide demonstration, the value of intravenous urography as an adjunct in completing the diagnosis. We are of the opinion, however, that this procedure when indicated, taking into consideration shock, gives valuable information as to the immediate procedure in management.

In this paper we will consider the genito-urinary tract in the following manner: Trauma of the kidney, ureter, bladder and urethra. Conservatism should be the password in relation to trauma of the kidney. Three of the most impor-

*Read before the American Urological Association, Memphis, Tennessee, May, 1931.

tant factors should be taken into consideration. First, the general condition of the patient; second, the extent of the injury, and third, the element of time.

The question of shock, which is a most important one, will be managed in the same way as it would in any other patient suffering from a similar condition. At this point I would like to emphasize that the use of intravenous urography will be left to the discretion of the surgeon in charge of the injured patient.

The next question of importance is to find out the extent of the injury to the kidney. Is the rupture within the kidney itself, or has it extended through the true capsule, or has it invaded the peritoneal cavity? In other words, it is imperative that we know whether we are dealing with an extra-capsular thing or an intraperitoneal tear.

The foregoing statements are of utmost importance, as the management depends so much on the interpretation of this condition. We believe that intravenous urography at this point is of the greatest advantage. If the rent is extraperitoneal, and the amount of extravasation is



Fig. 1. Skiodan showing a ruptured kidney involving the ureter.

small, we advise watchful waiting and again to repeat the first operation, viz., pyelogram to find out whether or not the extravasation has increased in size. That is most important because so much depends on whether or not the hemorrhage is entirely within the kidney and is draining into the bladder. In other words, the question of decision plays an important role in all cases of traumatic kidney.

Other factors must not be forgotten, such as blood pressure, blood counts, hemoglobin, all of



Fig. 2. Skiodan showing a ruptured kidney.

which add to the information desired in this class of case. So, again we want to emphasize the question of time.

Treatment. First, as stated before, conservatism should not be forgotten. If the rent is intraperitoneal, immediate surgery is indicated, provided the general condition permits. In many of those cases the kidney may be detached from its pedicle and resting in the peritoneal cavity, or in the perinephric space without any apparent injury to the patient externally. I have a specimen here to show in such a case.

We believe that in all cases of intraperitoneal tear that the kidney should be immediately removed whether partially detached. Of course, always remove when totally detached. (Note: Two case reports of one kidney in the peritoneal cavity which died following operation. The second case, due to a bullet wound in which the kidney was entirely detached, made an uneventful recovery.)

The big problem we have is in the class of case where the hemorrhage continues for some days. When the injury is confined to the kidney, our problem is to decide whether surgical intervention is the best procedure, or allow the patient to hemorrhage with the hopes that a hematoma will form which will prevent further

hemorrhage. I might add that in many cases, while the hemorrhage ceases and the urine becomes clear, the patient will later show considerable pathology. In three cases at Cook County Hospital in later years a complete atrophy of the kidney was observed. In one case a giant hydronephrosis appeared.

Where hemorrhage is extra-capsular, we advise the removal of all clots of blood and a careful examination of the kidney. By so doing one is able many times to save the kidney, which is the second consideration in the management of all these cases. We do not believe that in every case that has a rupture of the kidney and has a large hematoma present a nephrectomy is indicated. We believe that the kidney withstands a great deal of insult and yet when properly managed will recover. So, as stated, if the clots and hematoma are removed and the bleeding points sutured, a drain introduced in the pre-kidney space, the patient will make a good recovery and a good functioning kidney will be the happy result. However, there is one point that I should like to give you for your consideration, i. e., the introduction of paraffin catheters for the class of case where the injury is within the kidney and no hematoma appears. By so doing the pathology of the kidney, due to pressure necrosis, may be entirely avoided.

In all cases of trauma of the kidney a flat x-ray plate should be made to determine the condition of the kidney on the opposite side. In all kidney surgery a flat x-ray plate should be made to determine the condition of the kidney on the opposite side, the importance of which I shall demonstrate in a slide in a few minutes.

Rupture of the ureter may be divided into two general headings: Is it a complete or an incomplete tear of the ureter? The management there will be the introduction of a ureteral catheter at the time of injury in order that a continuity of the ureter may be present, which is easily done with a catheter in situ. One or two sutures may be employed. In many cases the catheter itself will suffice. By so doing a drainage has been established and the regeneration of the ureter will follow. In trauma of the urinary bladder the only question to decide is, are we dealing with an intra- or extraperitoneal tear? This, too, is well described with the use of intravenous urography. We believe that all the other methods heretofore such as Vaughan-Rudnick test, the use of injection of fluid, which we heartily oppose, the use of skiodan, will tell exactly where the rent is and the extent of the extravasation.

In all cases of intraperitoneal tear, an abdominal incision is routine, repair of the tear in the bladder, a drain to the peritoneal cavity, and the introduction of retention catheter is the method advised. If we are dealing with an extraperitoneal condition, we believe in all cases to repair the bladder, institute drainage in the prevesical space and use a retention catheter.



Fig. 3. Skiodan showing the kidney ruptured in half.

There is a considerable amount of difference of opinion as to this procedure. The industrial surgeon usually advises the use of a retention catheter and takes a chance as to the recovery. This, of course, depends altogether as to the condition of the urine, whether you are dealing with an infected or an uninfected urine. I have a few lantern slides to show how slough may take place with a superficial urinary extravasation.

The question of the urethral rupture is one that has caused an endless chain of argument. We believe the most important factor is to establish immediate drainage through the urethra. We believe, when possible, in doing suprapubic cystotomy and a retrograde sound, using the Davis method of two sounds, one through the meatus and the other through the bladder, thereby introducing a retention catheter.

The hemorrhage in the perineum due to trauma will usually take care of itself after the introduction of a large catheter, but if a hema-

toma should appear it is quite simple to open and drain. However, when the severed ends of the urethra are not intact it is easier to approxi-



Fig. 4. Sodium Iodide showing a ruptured bladder.

mate both ends if a urethral catheter has been introduced by the method mentioned above. In other words, the urethra now contains a splint by virtue of the catheter being in place. This simplifies the method of doing an end-to-end anastomosis of the urethra. It is not necessary to make this anastomosis water tight. We have modified the Davis sounds so they are a little more adaptable to the case.

Much credit should be given to George G. Davis for devising this method of using two sounds in managing a ruptured urethra.

CONCLUSIONS

1. Intravenous urography is of value in early diagnosis of trauma of the urogenital tract.

2. Early surgical intervention when indicated.

3. The question of shock and time an important factor.

4. A ruptured kidney is not always an indication for a nephrectomy. In many cases the clots may be removed and the kidney sutured with good results.

5. The management of a ureteral tear accomplished by doing a retrograde catheterization and screwing this catheter into one introduced from below.

6. Intravenous urography in bladder rupture will show whether or not one is dealing with intra- or extra-peritoneal tear.

7. In rupture of the urethra it is important to use two interlocking sounds, one introduced from the bladder through a suprapubic cystotomy, and the other through the meatus, thus establishing coaptation of the severed ends of the urethra and drainage.

25 East Washington Street.

THE ROLE OF ORTHOPEDIC SURGERY IN INFANTILE PARALYSIS

JOHN L. PORTER, M. D.,
EVANSTON

The orthopedic surgeon approaches the problem of the treatment of infantile paralysis purely from the standpoint of function. To him the problem is "How much of the function of the damaged limb, or group of muscles, can be restored?" and from the time when the first right-angled splint is applied, during the acute stage, on through the periods of nursing care, massage, braces, muscle training, and active exercises, to the final operation for correction of deformities, his treatment will depend upon the answer to the question, "How can the utmost function be best secured?"

The problems presented are mainly mechanical ones, resulting from loss of muscle contraction, loss of the normal muscle-group balance, and the pull of gravity, all tending to produce contractures and joint distortion.

It is not my purpose to discuss in detail the various mechanical and surgical procedures useful in the treatment of poliomyelitis, but to accentuate a few of the most important early measures and general principles governing their use.

Clinically, it is helpful to divide the history of a case of infantile paralysis into three stages, although these are not sharply defined, and vary in length.

First: The acute stage, when muscle tenderness still persists and possibly some irregular fever remains and the paralysis is very likely to slowly increase. This period may last four to six weeks, and right here is when the patient may pay the penalty for our doing too much or too little. This is the stage when nursing care and splinting are most important, and mild, gentle massage may be begun. It is during this early stage that two things must be borne in

mind—the danger of fatigue and of contractures.

With the co-operation of the pediatric service, we have outlined a definite guide for the care of acute cases in the Evanston hospital. This was formulated chiefly for the guidance of the nursing staff, but it is so important that we should all follow and be familiar with it. Let me quote:

"Patient should be kept flat in bed and lying as straight as possible, with changes made in position, to rest the patient. In severe cases the moving and lifting should be done entirely by the nurse.

"The bed should be firm and flat, with *no* dip in the middle, and a very small pillow, if any, used. A wide strip of thin building board between mattress and spring insures a flat surface.

"Where paralysis involves head, neck or arms, head should not be propped up on pillows, on account of danger of over-strain of neck muscles. A pillow or sandbag on each side of head prevents rolling, and the head should be lifted for the patient, but only occasionally.

"In the case of a paralysis of the upper arm and shoulder, the arm should be held at shoulder level, with the hand pointing toward the top of the bed, to prevent stretching of the deltoid and bicep muscles. A small pillow or sand-bag along the lower part of the arm and on the outside of the forearm will usually hold this position. It case they do not, a bandage about the wrist and fastened to the top of the bed will hold the arm in the desired position.

"Many times the patient prefers to lie on the side, with the knees flexed. This is harmful, as it puts a strain on two of the muscles most apt to be affected—the gluteus maximus and the quadriceps. It is much better to have the patient flat on his back, with the legs out straight, to prevent contractions. In case they have been permitted to keep the knees bent and contractions *have* developed, they must be straightened out, with pillows or callapsible inclined planes.

"In case the legs roll outward, a sand-bag along the outside, to hold the foot pointed straight up, should be used. A cradle or similar device should always be used to prevent the dragging of the bed-clothes on the feet.

"In case of involvement of the lower leg, regardless of what muscles are involved, the foot should be supported at a right angle. This can best be done in a metal or plaster splint.

"To take the soreness out of the muscles the patient should be lifted in a sheet into a tub-bath, of a temperature of about 100°, in which a cupful of sea salt has been dissolved.

"Massage should not be begun until sensitiveness of muscles has disappeared, which is usually about the third week, and then only every second day, for five to ten minutes.

"A few passive motions given under the direction of the doctor or physiotherapist are of as much value as the massage, but should not be given without definite instructions.

"Over-zealous treatment is often as detrimental as none, because muscle fatigue is the one great danger to be avoided.

"Here at this time is when the detailed attention to little things may mean much in determining the degree and rapidity of improvement."

Second Stage: The period of regression or improvement:

(a) Probably some return of muscle function occurs during this period in a very large percentage of cases, even without any treatment, but in many instances it goes unnoticed or is lost because contractures have developed in opposing muscles with consequent overstretching of the weakened muscles and tendons.

It is at this time that the great value of physiotherapy and muscle re-education with proper braces to maintain muscular relaxation is evident.

Braces, especially in upper arm and lower leg involvement should be worn day and night. Along with massage and muscle re-education goes tank exercises. That is, voluntary exercises carried out under water, thus abolishing the effect of gravity. Voluntary motions impossible in the air are often developed to considerable power under water. Massage alone will help to keep muscles active but exercise is necessary to increase the power.

An interesting example of what can be accomplished by persistent, intelligent physio-therapy and especially of tank exercises is seen in Governor Roosevelt of New York who spends a month twice a year doing exercises under water with the direction of a skilled physio-therapist. He not only carries on the duties of Governor of New York, but he threatens to invade the White House.

In the more severe cases, this is the period when, with carefully contrived braces, the patient can be taught to so use what muscle power he has as to be independent and get about alone. Muscle activity often continues to improve for several years. Where contractures at hips, knees or ankles have occurred, they must be overcome, and the patient taught to make use of such muscle power as remains, to get about with braces and crutches. Undoubtedly there are many helpless wheel-chair cases that have given up treatment as hopeless in which sufficient muscle power would be found to get them up on crutches with proper persistent training and exercise.

Just a word about electricity which has had a

great appeal in all diseases of the nervous system. All forms from galvanism to diathermy have been tried in poliomyelitis but their value is extremely doubtful. At present the concensus of opinion seems to be that some apparatus that delivers a galvanic current with a rhythmic make-and-break so that each individual muscle can be made to contract and relax at a fixed interval, is helpful. It combines passive movement with a degree of active muscle contraction which the patient cannot voluntarily produce. It should be used only by a skilled technician.

During this second stage no operations are undertaken, except possibly some division of tendons or fasciae where contractures have developed which cannot be corrected by other means. Braces skilfully made with lock joints, stop joints and pressure pads will usually control distortions and contractures and enable the patient to get about. Not until all possible muscle function has been secured should major operations be undertaken.

A word of caution concerning cases where abdominal or spinal muscles are involved. Corsets or jackets of leather, plaster, or celluloid should be applied early because spinal curvatures are sure to develop after the patient begins to sit up and they often become very severe and develop with amazing rapidity after the patient begins to walk.

We now come to the third stage, the so-called "stationary period" after all possible muscle improvement has been secured. This period begins from one and one-half to two and one-half years after onset and continues indefinitely. The word "stationary" is a misnomer because, untreated, the distortions and contractures continue to grow worse. Both patient and parents have become tired of the long months of treatment and have decided nothing further can be done. It is at this stage that the various stabilizing operations which have developed in orthopedic surgery during the past fifteen years have their great value. A tendon transplant or arthrodesis or bone block may enable the patient to discard braces or crutches. Spinal fixation by means of bone grafts after the method of Hibbs or Albec has proven very satisfactory in the extreme cases of scoliosis where the patient is disabled and made uncomfortable by the ever increasing rotation and visceral pressure.

Whether operation is indicated and what the most valuable surgical procedure will be must be decided only after a careful study of the physiological mechanics involved and an accurate estimate of the amount of improvement that can be secured, and such operations should only be undertaken by one with training and experience.

To sum up, from the orthopedic standpoint, the things to impress upon the parents and physicians in charge are:

1. Don't overdo. Rest is most important thing, and fatigue must be avoided.

2. Splint the joints so as to prevent contractures.

3. Begin massage very guardedly, as too much massage is as fatiguing as exercise.

4. As soon as paralysis is stationary begin muscle exercises and education, *not before.*

5. As soon as active use of the paralyzed member is permitted, braces must be devised and prescribed for each case.

6. With the active exercises and muscle training encourage independence. Never give up. Some patients remain in bed because they cannot get out alone, but with braces might walk when once upright, and there are comparatively few cases that cannot be taught to get out of bed or out of a chair alone.

7. Advise operative procedures only after as much improvement as possible has been secured by physiotherapy and muscle training and then only after thorough consideration of *all* the mechanical problems involved.

Society Proceedings

COOK COUNTY

CHICAGO ROENTGEN SOCIETY

Joint Meeting, Wednesday, February 10, 1932

Crushing Injury to the Chest Followed by Complete Recovery ..... Harry Olin
Unusual Periostitis in Children ..... C. B. Rose
Multiple Bacillus Abortus Osteomyelitis of the Spine ..... L. F. Fisher
Anencephaly with Specimen ..... M. J. Hubeny
Pneumopericardium Following Foreign Body in the Esophagus ..... R. A. Arens
Megalo Colon ..... E. L. Jenkins
Triple Lesion in One Hip ..... I. S. Trostler
Some Unusual Mediastinal Lesions ..... A. Hartung
Malignancy Originating in a Pagets Disease ..... R. J. Maier
Giant Cell Tumor of Humerus That Responded to Deep X-Ray Therapy ..... M. I. Kaplan

Liver and Spleen Visualization by Thorotrast.....
.....C. H. Warfield

The demonstrations will be by Radiographs and Slides.

CHICAGO MEDICAL SOCIETY

Regular Meeting, Wednesday, February 17, 1932

SYMPOSIUM ON CANCER

"The Doctor and Cancer Control".....Burton J. Lee
Professor, Clinical Surgery, Cornell University Medical College, New York

"Cancer of the Uterus".....William C. Danforth
Associate Professor, Obstetrics and Gynecology, Northwestern University

"Radiosensitive Tumors" .....Max Cutler
Director of Tumor Group, Michael Reese Hospital.

"The Role of the Pathologist.....Richard H. Jaffe
Pathologist, Cook County Hospital

"Ways and Means of Organizing for Group Study of Cancer" .....C. C. Little
Managing Director, American Society for the Control of Cancer

Discussion opened by: Charles Davison, Karl Meyer, R. W. McNealy, J. P. Simonds.

CHICAGO SOCIETY OF INDUSTRIAL MEDICINE AND SURGERY and CHICAGO UROLOGICAL SOCIETY

Joint Meeting, Wednesday, March 2, 1932, 8:30 P. M.

"Pelvic Fractures" .....Kellogg Speed
Discussion.....William R. Cubbins

"A Study of Certain Urological Complications Associated with Fractured Pelvis..Edward William White
Discussion.....Charles M. McKenna

Fellowship Dinner, Medical and Dental Arts Club, 6:30 P. M.

F. W. Slobe,
President Chicago Society of Industrial Medicine and Surgery.

Alfred E. Jones,
President Chicago Urological Society.

S. S. Graves,
Secretary Chicago Society of Industrial Medicine and Surgery.

L. L. Veseen,
Secretary Chicago Urological Society.

PIKE COUNTY

The January meeting of the Pike County Medical Society was held in Pittsfield, January 28, 1932.

After an excellent fried chicken dinner served at the Pike Cafe, the meeting was held in the Lions Club Rooms.

The Secretary read a communication from the State Secretary in regard to appointing a member to work in conjunction with the State Society American Legion Contact Committee, and the Secretary was elected to such position.

The Secretary then gave a membership and financial report.

The first paper on the program was "Surgical Risks" by Dr. Frank A. Norris of Jacksonville, giving in a clear and complete way the importance of the many factors that enter into the question of whether a patient is in good condition to go through a surgical operation. The condition of the heart and blood, the urinary findings, the condition of the lungs: everything demonstrable by the x-ray, and other factors were named as important for consideration at such time, and that time should always be taken where possible, to correct such conditions.

The second paper, "Hemorrhage in Pregnancy and Labor," was given by Dr. E. D. Canatsey of Jacksonville. This paper was very thorough in presenting all known causes of hemorrhage in these cases, and gave the treatment for every such emergency as it might arise.

The third paper was on "Poliomyelitis" and given by Dr. F. Garm Norbury of Jacksonville. The author stated that, as he had so recently had the subject presented, he would endeavor to take it up in a somewhat different manner than he had intended. This he did very interestingly, drawing upon the latest in the literature, upon his own personal experience and upon that of the staff of the Norbury Sanatorium, a member of which he is.

This paper was, as were each of the others, scholarly and informative. They were listened to with much interest by all present and discussed by quite a number of physicians, but no lengthy discussion took place.

A resolution was adopted, thanking the Jacksonville physicians for the excellent program presented, and to the Pittsfield physicians for their entertainment.

F. N. Wells, Secretary.

PULASKI COUNTY

In Memory of our Esteemed Professional Brother;

Whereas, God in His infinite wisdom has removed from our midst one of our members, Dr. Hall Whiteaker, of the staff of the Anna State Hospital;

Whereas, Dr. Whiteaker was a charter member of the Pulaski County Medical Society and through the years a loyal member, filling the different offices, and a strong advocate for Medical organization;

Whereas, He was held in highest esteem as a general practitioner in this county, was elected to the Legislature from this district, served with honor in the World War and for a number of years served with distinction as a member of the staff of Anna State Hospital;

Whereas, We the members of Pulaski County Medical Society greatly appreciate the distinction and heights in the profession attained by our colleague. Although we feel our great loss, we shall cherish in memory the friendship and association of him whom we loved;

Therefore Be It Resolved, That in expression of our most heartfelt sympathy to send a copy of these resolutions to Mrs. Whiteaker, that a copy be spread in the records of this Society and a copy be sent to the Illinois Medical Journal.

H. J. Elkins, President.
Otis L. Hudson, Secretary.

WARREN COUNTY

The regular mid-winter meeting of the Warren County Medical Society was held at Monmouth on Thursday, February 18, 1932. The meeting began at 4:30 with Dr. Hermon H. Cole of Springfield as first speaker, the subject, "Mechanical Aspects of Thoracic Disease," illustrated by lantern slides. This was a most interesting story of the mechanics of the chest, especially of a physiological nature, with an evaluation of the modern methods of treatment of chest disease. An interesting discussion followed the presentation by Dr. Cole.

The next speaker, following a 6:30 dinner, was Dr. James H. Hutton of Chicago, who talked on "Recent Advances in Endocrinology." Dr. Hutton briefly reviewed the development of Endocrinology, and paid special attention to the developments of the past few years, telling of the recent discoveries of new hormones and their physiological actions. This talk, too, was thoroughly discussed by a number present, and Dr. Hutton was asked many questions, which were answered.

The meeting was attended by approximately 70 physicians from west central Illinois and eastern Iowa, all of whom were well pleased with the program.

A short business meeting of the Warren County Medical Society was held during the evening, and the following officers were elected:

President, Dr. Ralph Graham, Monmouth; vice-president, Dr. W. M. Crosier, Alexis; secretary-treasurer, Dr. Chas. P. Blair, Monmouth; delegates to Illinois State Medical Society, Dr. C. O. Burgess, Monmouth. Board of Censors, Dr. E. A. Fetherston, Monmouth; Dr. H. S. Zimmerman, Cameron, and Dr. J. L. Sherrick, Monmouth.

A new Constitution and By-Laws which had been prepared by a special committee was unanimously adopted during the meeting.

Chas. P. Blair, M. D., Secretary.

Personals

Dr. Arthur J. Cramp, Chicago, addressed the Macoupin County Medical Society in Carlinville, January 26, on "The People and Patent Medicines."

Dr. Walter R. Fischer, Chicago, spoke on orthopedics, January 27, before the Will-Grundy Counties Medical Society in Joliet.

Dr. William K. McIntyre, St. Louis, addressed the Adams County Medical Society, Quincy, February 8, on "Cancer of the Large Intestine."

Dr. James E. Lebensohn, among others, addressed the Chicago Ophthalmological Society, February 15, on "Radiational Cataract."

Dr. Edmund Andrews, Chicago, addressed the Will-Grundy County Medical Society at Joliet, February 10, on "Intussusception."

Dr. Drew W. Luten, St. Louis, addressed the St. Clair County Medical Society, East St. Louis, February 4, on "Coronary Sclerosis."

Dr. Andrew C. Ivy, Chicago, addressed the Peoria City Medical Society, February 2, on "Physiological Aspects of the Etiology, Symptoms and Treatment of Gastroduodenal Ulcer."

Dr. Frederick Eberson, San Francisco, addressed a meeting at Michael Reese Hospital, February 3, on his recent study on the etiology of poliomyelitis.

The Chicago Society of Allergy was addressed, February 15, among others, by Drs. Samuel J. Taub and Harry S. Arkin on "Asthma Due to Ingestion of Yeast."

At the meeting of the Chicago Council of Medical Women, February 5, Drs. Lena K. Sadler and Mary G. Schroeder spoke on "Preliminary Survey for Emotional Analysis" and "Treatment of Personality Maladjustments," respectively.

The Chicago Surgical Society was addressed February 5, among others, by Drs. Charles B. Puestow on "Studies of the Discharge of Bile Into the Duodenum," and William E. Adams, "Healing of Experimental Pulmonary Tuberculosis by Bronchial Occlusion."

The La Salle County Medical Society was addressed, February 9, by Drs. Robert S. Berghoff, Chicago, on "Syphilis of the Heart," and Arno B. Luckhardt, Chicago, "Ethylene Anesthesia" and "Importance of Animal Experimentation in the Advancement of Medical Knowledge."

The Chicago Gynecological Society was addressed, February 19, by Drs. Louis Rudolph and Andrew C. Ivy on "Internal Rotation of the Fetal Head: From the Viewpoint of Comparative Obstetrics," and Dr. Henry Schmitz, "Technic of Irradiation in Uterine Carcinomas."

At the meeting of the Chicago Roentgen Society, February 10, the speakers included Drs. Cassie B. Rose on "Unusual Periostitis in Children"; Roe J. Maier, "Malignancy Originating in a Paget's Disease," and Maurice I. Kaplan, "Giant Cell Tumor of Humerus That Responded to Deep X-Ray Therapy."

Dr. Andy Hall, state director of public health, announces that health promotion week will be observed in Illinois, April 24-30. The announce-

ment states that prevailing health conditions, which were never more favorable, are a tribute to the foundations on which scientific preventive medicine and public health service are built.

Dr. Russell D. Herrold addressed the Chicago Pathological Society, among others, February 8, on "The Influence of the Acid of Urine on the Growth of Bacteria," and Dr. Henry C. Sweany, "Studies in Hodgkin's Disease: A Primary Lung Tubercle Appearing in a Patient Having Advanced Hodgkin's Disease."

The Peoria City Medical Society was addressed, February 11, by Drs. Raymond W. McNealy on "Recent Advances on the Treatment of Fractures"; Samuel J. Fogelson and Arthur J. Atkinson, "Mucin Therapy in Gastric and Duodenal Ulcer," and Charles A. Elliott and M. Herbert Barker, all of Chicago, "Modern Conception of Renal Disease."

Dr. Ralph Mellon of Pittsburgh lectured under the auspices of the A. O. A., at the University of Illinois College of Medicine, February 5, on "Filtrability of Tubercle Bacillus."

News Notes

—Provisional statistics indicate that mortality from tuberculosis and diphtheria, which, respectively, caused rates of 61.2 and 4.8 per hundred thousand, dropped to new low levels in Illinois during 1931. The general death rate was 11.1 per thousand people, a slight increase over the 10.9 rate of 1930 but lower than any previous record except that of 1921, which was identical. The average annual death rate of 11 for the two years of 1931 and 1930 was the lowest for any two successive years since Illinois was admitted to the U. S. death registration area. Typhoid caused 125 deaths during 1931, giving a rate of 1.6 against a previous low of 1.4 for 1929. The rates from pneumonia (71.6), influenza (21.3) and measles (4.3) were principally responsible for the rise in the general death rate. Poliomyelitis caused 101 deaths, a rate of 1.3, which was almost identical with the 1927 report.

—A two weeks' institute for tuberculosis workers, primarily laymen, will be conducted at Northwestern University Medical School, April 4-16. It will be conducted by the National Tuberculosis Association in cooperation with the medical school and the Chicago Tuberculosis Institute, and will be under the direction of Philip P. Jacobs, Ph. D., director of the extension service of the association. The registration fee is $10. Application blanks may be obtained from the state tuberculosis secretaries, or from the National Tuberculosis Association, 450 Seventh Avenue, New York. Topics for discussion will include child health education, case findings, care of physically substandard children, public health nursing, industrial health service, treatment methods, relation of the tuberculosis campaign to other social and public health movements, relation of the tuberculosis movement to the medical profession, and medical and scientific basis of the tuberculosis campaign.

—According to the state health director, the volume of "preventive practice" in relation to the prevalence of certain diseases subject to control through vaccination and diagnosis by laboratory procedure increased in Illinois during 1931. The amount of toxoid and toxin-antitoxin distributed by the department indicates that twenty-one children were immunized against diphtheria for each case reported in 1931, against sixteen to one in 1930, and eleven to one in 1929. For each case of smallpox fifty-four persons were vaccinated in 1931 compared with fifteen per case in 1930 and twenty-one per case in 1929. Against typhoid, twenty people were vaccinated per case in 1931 compared with twenty-one per case in 1930 and twelve per case in 1929. The diagnostic laboratories of the department of health examined for typhoid thirteen specimens per case reported in 1931 compared with 9.5 per case in 1930. For diptheria there were 2.5 specimens per case examined in 1931 compared with 1.4 per case in 1930. The rate for tuberculosis was 1.5 specimens per case in 1931 and 1.4 in 1930. For these three diseases 40,155 specimens were examined during 1931 against 35,984 in 1930, although the aggregate number of cases reported declined from 18,997 to 16,667.

—Northwestern University is conducting a search for precocious students who meet all university requirements but who are from 13 to 15 years of age. The announcement states that while the problem of what to do with the precocious child after graduation from high school is recognized, no university has attempted to approach the problem by evolving a special program for such students. By precocious, it was pointed out, is implied an intelligence quotient of more than 130 or such youthful attainments as were characteristic of Jeremy Bentham, who

wrote Greek and Latin at the age of 5 and prepared to enter Oxford at 10; Benjamin Franklin, publisher of a newspaper at 17, and George Washington, a professional surveyor at 15. Special provisions will be made to meet the needs of the superior students at Northwestern. There are two such students in the school at present, but it is felt that they have lacked an adequate environment. It is planned to offer this environment to the students next year. Of the four precocious students who have entered the university, one is the author of several novels and many short stories and is now editor of two magazines, and one recently was awarded a Rhodes scholarship to Oxford University. A letter has been sent to a selected list of high school principals apprising them of Northwestern's desire to aid the precocious student.

—The Gehrmann Lectures at the University of Illinois College of Medicine will be delivered in the New Building at 1853 Polk Street, Chicago, and will be devoted this year to the field of Mental Hygiene. They will be given by Dr. C. Macfie Campbell, Medical Director of Boston Psychopathic Hospital and Professor of Psychiatry, Harvard Medical School, on March 15, 16 and 17, in Room 221. The time and titles of Dr. Campbell's lectures are:

March 15, 4:00 P. M., "Schizophrenic Disorders."

March 16, 1:00 P. M., "Preoccupation and Environmental Problems of the Patient."

March 17, 4:00 P. M., "Personal and Environmental Problems and Resources Available for Treatment."

Deaths

Miles D. Baker, Carbondale, Ill.; Medical College of Ohio, 1875; a practitioner for many years in Herrin, Ill.; aged 78; died, February 11, of myocarditis.

William Louis Baum, Chicago; Jefferson Medical College, Philadelphia, 1888; senior dermatologist, St. Luke's Hospital; head of infectious and contagious department, Cook County Hospital, 1892-1912; president of staff, Cook County Hospital, nine years; professor of skin and venereal diseases, Post-Graduate Medical School; Fellow, A. M. A. and American College of Surgeons; Lieutenant-Colonel, M. R. C., U. S. A.; member of numerous scientific societies and social clubs; aged 64; died, February 22, of chronic nephritis and cerebral hemorrhage.

Frank Peirce Beck, Oakland, Ill.; University of Illinois College of Medicine, 1903; past president of Coles-Cumberland Medical Society; a Fellow, A. M. A., surgeon for Pennsylvania and Nickel Plate Railroads; served as examining surgeon during World War; aged 61; died, January 21, of sclerosis of cerebral arteries.

Matthew H. Blackburn, Princeton, Ill.; State University of Iowa, College of Medicine, 1889; a practitioner for many years in Princeton and active in financial affairs; aged 70; died, February 8.

Charles Edward Brummet, Jacob, Ill.; St. Louis University School of Medicine, 1903; aged 60; died, Dec. 27, 1931, in St. Andrew's Hospital, Murphysboro, of angina pectoris.

Adolph Edward De Tuncq, Milbank, S. D.; Marquette University School of Medicine, Milwaukee, 1913; member of the South Dakota State Medical Association; served during the World War; aged 41; died, Dec. 16, 1931, in Chicago, of carcinoma of the pancreas.

Edwin Valentine Heaton, Jacksonville, Ill.; Barnes Medical College, St. Louis, 1896; aged 61; committed suicide by gunshot in the New Douglas Hotel, February 6.

Joseph Grant Killgore, Vermilion, Ill.; Kentucky School of Medicine, Louisville, 1888; member of the Illinois State Medical Society; aged 65; died, Dec. 27, 1931, in a hospital at Paris, of injuries received in an automobile accident.

George C. Lewis, Fairbury, Ill.; Bellevue Hospital Medical College, 1883; aged 77; died, February 11, after long illness.

Adolfo Alfonso Luria, Chicago; University of Illinois College of Medicine, 1895; aged 64; died, February 3, of chronic nephritis.

Robert Groves McCarthy, Chicago; University of Illinois College of Medicine, 1899; aged 55; committed suicide by hanging, in Mark Twain Hotel, February 12.

Looney McCormack, Harrisburg, Ill.; St. Louis College of Physicians and Surgeons, 1898; member of the Illinois State Medical Society; aged 66; died, January 6, in the Lightner Hospital, of appendicits.

E. Franc Morrill, Rock Island, Ill.; Woman's Medical College, Chicago, 1891; member of the Illinois State Medical Society; aged 65; died, January 26, of Addison's disease.

Calmar C. Owen, Chicago Heights, Ill.; Chicago Homeopathic Medical College, 1890; aged 66; died, January 3, of chronic interstitial nephritis.

Arthur A. Radcliffe, Waukegan, Ill.; St. Louis Medical College, 1879; aged 77; died, January 8, in the Victory Memorial Hospital, of injuries received when he was struck by a truck.

Charles Chester Sperry, Marengo, Ill.; Chicago Medical College, 1874; aged 80; died, January 29, of chronic myocarditis and chronic nephritis.

Gustave Tedtman, Chicago; National Medical University, Chicago, 1897; aged 67; died, February 10, of diabetes.

Albert Lawrence Thompson, Makanda, Ill.; Missouri College of Medicine and Surgery, St. Louis, 1898; the third physician brother to die; aged 55; died, February 5, in Holden Hospital, Carbondale, of cancer of the throat.

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EIGHTY-SECOND ANNUAL MEETING AT SPRINGFIELD, MAY 17, 18, 19, 1932

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Editorials

POISONOUS, MENDACIOUS AND UNTRUE MATERNAL MORTALITY PROPAGANDA APPEARING IN LAY MAGAZINES

When some of our population are at a loss for an occupation they mix a few highballs, or start a card game. When some others of our population are similarly disengaged it has become a fixed habit to gouge, garrotte and bedaub the medical profession.

The high-ball headache and the gambling loss react no further than upon those individuals themselves. Unfortunately the ignorantly false arraignment of the medical profession strikes deep into the heart of the welfare of the American home, while having little or no effect upon its instigators.

Especially is this true of much highly ornamental, so-called medical information, sugar-coated but *only tinged with fact* and appearing in popular magazines of wide circulation and definite appeal to women and the home. Publishers of these lays periodicals and the misinformed contributors who would write like Solomon from a buffoon's brain, suffer individually not one whit from the actually criminal misinformation thus vended to the world and its women at prices ranging from a nickel to a dime.

On comparatively trivial topics the damage is had enough. But when the tart tarradiddle and malicious mendacity wings its way into that very core of medical work—obstetrics—then indeed is it time that drastic action is called for. The medical profession dare not turn an indifferent ear to this situation.

Great and growing greater is the group of lay offenders against the medical profession and its works. Time after time in these columns has the editor pointed out that "A little knowledge is a dangerous thing." With the lay press it seems to be lethal.

When the shallow draught from the Pierian spring is relayed as law and gospel to the great

bulk of American citizens, who have not yet lost faith in the printed word of a reputable publication, then it would seem to be indicated that the writer of such articles, and the owners, publishers and editors of the publications in which such erroneous statements appear should be made to realize the terrible wrong abiding in false information to a more or less credulous group of readers.

Flagrant offense of this nature exists in an article published in the March, 1932, number of the Ladies' Home Journal, an excellent, aged and honorable periodical interested in all that pertains to the home. The article is entitled "Saver of Mothers" and pays picturesque, glowing and merited tribute to Dr. Ignaz Semmelweis for his work in discovering the relation of sepsis to puerperal fever. So far so good. Not a doctor nor professor nor savant of medicine has a word of fault to find with that verbal honorarium to the dead. But in his Semmelweisian enthusiasm, the writer—an only too frequent offender in similar medical misinformation — hauls off and throws knife after knife into the really efficient and painstaking and ever in-process-of-perfection-tasks of modern competent obstetricians.

According to this writer (a man whose experience, training and education far from fit him to sit as absolute judge and supreme dispenser of all items aesculapian) childbed fever is just *a preventable crime.* It would seem further that a *far more preventable and far greater crime is lying publicity about childbed fever, its cause and prevention, and what this man insists is criminal negligence of the medical profession of the United States in regard to its handling.* A lie direct and that to the point of absurdity.

Boycotting physicians who have a single case of childbed fever, abolition of maternity wards in general hospitals and a wholesale delivery of our present methods of obstetrical practice into heaven knows what nebulous state of "prevention" is the gist of the theme of the article. After intimating in no indefinite terms that the average physician is negligent in that elementary surgical cleanliness that is a preventative of puerperal (and other) sepsis, after overlooking entirely the fact that this infection can as often come from the patient herself and from her own physical conditions as from an exterior cause, the greatest broadside of all is hurled at American obstetrics. It is untrue, yet it comes as an ultimatum. "Yet today, in our country," reads the article, "and with the exception of Chile and maybe one or two others, the death rate from childbed fever is higher than that of any civilized land."

To be colloquial this is poppy-cock. No two countries use the same standard of compilation for vital statistics any more than they use the same system of coinage. Again it is the old tale of "One measure for my grain, another for yours."

This difference in methods of statistical computation for maternal maternity statistics is admitted frankly by Sir Arthur Newsholme, the great English authority on such matters. Some few tables that were evolved indicated plainly that statement was entirely false that tried to show that the United States stands in the seventeenth or even in the fifteenth place where a low maternal death rate is concerned.

International comparative standing of any country in regard to maternal death rates cannot be secured with any accuracy until the same system of compilation and elimination of cause and complication is established. For example, the United States Census Bureau will not allow physicians in the United States to follow the English plan of elimination of puerperal deaths in vital statistics, yet Newsholme shows by his process how the death rate in England for one year was reduced from 5.46 to 4.12 per thousand.

Now while this article under discussion declares that from preventable childbed fever one out of every eighteen married women between the ages of fifteen and forty-four dies in the United States, the writer fails entirely to connote any of these statistics, registered, ethical and at hand for the usage of reputable medical men, even as fallacious as are those statistics.

But his slander-bearing kite sails high. Twinkling brightly on its glowing tail comes a statement that the writer attributes to Dr. Joseph B. DeLee in which he quotes Dr. DeLee as well as commenting that:

"Dr. DeLee comes out right flat-footed telling of present disasters in general hospitals, whispered about among doctors, never heard of by us plain folks. In this Class A general hospital an outburst of childbed fever with ten cases stricken, six gravely, three dying. In that one, twenty cases—six dying and so on—all over.

"These secret happenings have stirred up Dr.

DeLee to say that a maternity ward of a general hospital is a dangerous place for a woman to have her baby."

Upon climatic, racial, social and economic conditions in the United States afford more contentious complications than do such factors in any other land. We offset this by a far higher standard of living for even our poorest classes, and by a system of medical care for the poverty stricken that equals that received by the very rich.

Reference is suggested to a thesis written in 1923 by Dr. Thomas J. Duffield, Massachusetts Institute of Technology, in which he not only shows the divergence of methods of statistical collections but remarks that of all European countries Switzerland seems to be the one with the fairest and most accurate method of this nature.

Yet under the flimsy mask of a tribute to Semmelweis, that Hungarian doctor among the pioneers of asepsis of maternity cases the article under discussion waxes floridly vitriolic in its assault upon American medical men. In part it states:

"Yet every year in our land 7,000 mothers are killed —there's no other word for it—by somebody's failure to practice this forgotten Hungarian's deep, simple art of keeping out blood-poisoning death. . . By cleanliness.

"It isn't because Semmelweis himself is forgotten, though he's forgotten, all right. To save our mothers he doesn't have to be remembered. His death-fighting tricks are so simple.

"Even in our land, where childbed fever is the worst medical scandal, in a period of years at the Lying-in Hospital in Chicago, 25,212 mothers have had their babies—with just one dying from childbed fever caught in the hospital. There's Semmelweis prophecy come true for you. It's really simple, entirely possible.

"Of course, De Lee, who's responsible for this marvelous record, has more than a touch of the wild Hungarian's fanatical cleanliness. He's lived most of the thirty-five years of his medical life in one or another of eight large hospitals. What he's seen has been plenty.

"In all the general hospitals he's worked in he has seen childbed fever. De Lee comes right out flat-footed telling of present disasters in general hospitals, whispered about among doctors, never heard of by us plain folks. In this class-A general hospital an outburst of childbed fever with ten cases stricken, six gravely, three dying. In that one, twenty cases—six dying. And so on, all over.

"These secret happenings have stirred up De Lee to say that a maternity ward of a general hospital is a dangerous place for a woman to have her baby.

"Of course a general hospital can't help being infected. It's a sort of armed camp of streptococci. It would really be superhuman to keep them all from sneaking now and again from medical and surgical wards, from laboratories, from the autopsy room—to the maternity ward. No, this isn't Semmelweis, 1847, but De Lee, 1927, who's saying it.

"But you'll say look at our wonderful facilities! In place of Semmelweis' little old basin of chlorine water, we have shining disinfecting apparatus, rubber gloves, masks, wonderful chemicals. Old Semmelweis called the childbed death 'putrid animal matter.' We have tomes full of complicated bacteriological data that would wrinkle the brow of that simple man—

"But to run all these beautiful gadgets we haven't got—Semmelweis. De Lee explains it. If only the high-pressure sterilizers always disinfected their contents. . . . If the laundry always washed and boiled the linen and blankets. . . . If the nurses and doctors always disinfected their hands between cases—

"In short, it boils down to this: If they all—like Semmelweis—only cared down deep about these mothers dying. Then there'd be no excuse, no alibi. 'When looking at the coffin of one of our clean cases we have little regard for excuses.' No, it's not our old Ignaz, but Doctor De Lee who says it.

"That's what brought De Lee to organize the wonderful Chicago Lying-in Hospital—simply living Semmelweis over again. It's his bitter experience with human frailty that's made De Lee see the one way out of it: To *isolate* mothers from this death.

"But we've got to be practical. Of all the babies born in our land every year, only a fraction of mothers can lower their chances of dying from childbed fever by having their babies in super-clean hospitals isolated from infection, like the Chicago Lying-in Hospital and others.

"We have to be practical, and can't wait for the day to come—the day De Lee and others are doing their almighty best to hurry on—when the maternity ward of every general hospital will be absolutely separate from the main building. So to keep out the blood-poisoning death.

"Of course the great mass of our mothers are lucky: They have to have their babies at home—

"The great mass are lucky, too, having family doctors who really are clean, who don't hurry from cases with boils, with abscesses, with infected wounds, sore throats, fevers—straight to the bedsides of our mothers in labor. Doctors who don't do that, at least, without changing their clothes, using absolutely sterile instruments and dressing, making their examinations inside mothers—always—with sterile rubber gloves.

"But we must be practical. There are still enough doctors not knowing their Semmelweis, or too busy really to practice their Semmelweis—so that childbed fever kills one out of eighteen of all married women dying between ages fifteen and forty-four. How practically, are fathers and mothers going to know that their homes will be spared?

"There's the old American panacea: There should

be a law about it. Doctor De Normandie, of Boston, says every case of childbed fever should be made legally reportable. Then we'd know who was responsible. But we all know how laws work. Sixteen states already have such laws. How much have they lowered the threat of this flaming death?"

It seems to us that this poisonous mendacious untrue propaganda, for just what purpose we do not know and really hate to guess at, demands as much investigation and disinfection as ever Semmelweis employed in his clean-ups of maternity hospitals in Vienna and in his native Buda-Pesths. And it is equally a malfeasance for the heroic labors of this great obstetrician for medicine, for maternity and for the profession to be distorted into an agent of evil, both grotesque and destructive, to wreak havoc in the very cause Semmelweis served. Aside from possible commercial profit hinging to writer and to publisher, where is the good and thoughtful American doctor, who upon perusal of that section of that periodical is not impelled to ask:

"What is the idea?"

"Who gets the benefit of all this and why?"

The article emphasizes that it was "cadaver poison from the autopsy room" that led to Semmelweis' findings.

It would seem the writer of the article is using the dead Semmelweis and his work as a nefarious source of poison and infection to betray and destroy the very doctrines that the article pretends to laud. And let it not be forgotten either that the death of poor Semmelweis himself is attributed to blood poisoning acquired at an autopsy.

DO DOCTORS PRACTICE MEDICINE OR IS IT DONE BY ROMANTIC WRITERS OF THE LAY PRESS?

Elsewhere in this issue is printed comment by Dr. Charles B. Reed and Dr. Clara Ferguson relating to an article concerning maternity practice that appeared in a lay publication having wide circulation, especially among wives and mothers. So slanderously unjust is this article against every reputable physician engaged in maternity practice that the medical profession may well stop and ask:

"In whose hands does the practice of medicine in the United States rest in these tax-ridden, bureaucratic, law shackled days? Do doctors practice medicine or is it done by romantic writers for the lay press?"

On a figment of fact it is become the custom to rear tall edifices of glaring fancy. These are gobbled up by a curious laity. The profession is left practically but not entirely defenseless. It is well to remember the words of that poet laureate of England who wrote:

"A lie that is all a lie may be met and fought with, outright.
A lie that is half a truth is a harder matter to fight."

WE HAD ALL BETTER HANG TOGETHER NOW, FOR IF WE DON'T WE SHALL HANG SEPARATELY

Shall medicine and its votaries be denied that important fundamental—equality of opportunity?

Bolshevism or Americanism—which? Ask the Doctor.

What is the kernel of true Americanism and of man's humanity to man may be capsuled in the phrase—"equality of opportunity."

This equality of opportunity is guaranteed to citizens of the United States by the Declaration of Independence and confirmed by the Constitution of the United States of America. It is unfortunate that a destructive organized movement directed for some years past against this fundamental principle of human liberty should be using the medical profession as its catspaw.

To drug national senses against this statement as we will fails to change the situation. No amount of rare attar of rose sprinkled in the room of a dying cancer patient will cure the disease in its malignancy. No amount of optimism of any degree stops the frightful parade of socialistic doctrines and of bolshevistic tenets that are creeping into this great land under the banners of revision and revamping of the conduct of affairs medical. The medical profession quite generally admits frankly enough that some adjudication must be made between the cost of medical education, the cost of medical service to the public, and—*let this thought be well sunk into the minds of the laity*—THE COST OF MEDICAL SERVICE TO THE MEDICAL PROFESSION!!

Figures will show, do show and cannot help but show to the general public that in so far as

material things are concerned, no profession, trade, craft, science or art repays so small a percentage for the time, money, health, strength and youth invested as does the practice of medicine. The clergy, of course, are not be counted in this schedule, for with material things the clergy concerns itself not at all, nor are its profits so to be reckoned. Because medicine is the profession dealing most closely, outside of the church, with the humanities and with laws of health and nature that refuse standardization, medicine is the objective against which is aimed this bolshevistic drive. What revision is necessary to be made in the cost of acquisition of medical knowledge and its disbursement is a technical matter that the medical profession is thoroughly capable of handling within the confines of its own level. The doctors can lance their own carbuncles better than any neighboring baker or garageman can do this for them. The Hippocratian oath has already bound every ethical physician in stronger bonds of equal rights for mankind, brotherly consideration and the finer humanities than any Bolshevistic regime can evolve in the way of coercive contracts, collusive agreements or despotic standardization. When the truth stands revealed, the joke will be on Bolshevism. One of the first things the medical student learns is that there is no caste in birth or death. All that can be hoped for is "equality of opportunity."

Since medicine ranks next to the church in its unselfish spiritualities, having destroyed the church, naturally enough the next target of the Bolshevists in this America,—whose wealth they envy and seek to ape.—is the destruction of the medical profession. But a snake is wily. Even as the Scripture saith, "These four things there be—the way of a maid with a man; of a vessel on the sea, and of a snake upon a rock . . ." So the serpent of Bolshevism wriggles gently into the picture through tall grasses and foaming seas the waste of the world around.

All the socialistic interference against which this journal has stormed and argued for over a decade from handicapping lay dictated legislation to the current motif of universities and corporations practicing medicine, are the illegitimate offspring of bolshevism playing the pretender to the rights of American citizenship and the American instituted equality of opportunity.

Now, fire must be fought with fire. Catch a lion, not in the Maine woods but in the African jungles. Organized misrule is waging this devastating war that organized sanity must combat. The fight is immediate. It must be to a finish. Forces of medicine must organize as never before to fight for the preservation both of the sanctity of their own standards and of true Americanism—the great equality of opportunity. After all, it matters less if man be "born free and equal" than if they are granted the postnatal opportunity for equality. Therein lies the stamina of nations.

Who has voiced this better than did Benjamin Franklin? When the Declaration of Independence had been signed, Franklin turned blithely to the group and remarked:

"Well, gentlemen. We had all better hang together now. For if don't we shall hang separately."

Nor has the necessity for organization in all walks of American life had a better recommendation than comes from no less a person than the Secretary of Commerce, Dr. Julius Klein, who said a short time ago over the Columbia network radio system:

"I hear some members of business bodies talking these days about the possibility of resigning from the organization, with the object mainly of supposedly saving money. I can think of nothing more dangerously extravagant than that —a wasteful squandering of that invaluable asset of good teamwork at the very time when collaboration is absolutely vital. When you are out in mid-Atlantic in a bad storm, do you see anybody shoving off from the big liner in a row boat by himself to save passage money? Well, hardly!

"* * * And so we may say that business collaboration is just applied common sense. The great British labor leader, John Burns, once told of visiting a lunatic asylum and of being astonished by the few keepers. 'What's going to happen,' he asked, 'if those maniacs get together and start something?' The doctor's answer was significant: 'Lunatics don't get together!' And to that I might add: But sensible, far-sighted business men are not lunatics.

"I need not emphasize how tremendously valuable such cooperative services can be right at this present juncture in our American business life. It forms a potent factor in helping to boost us along the path that leads upwards to

the plateau of prosperity, out of the distressing trough of depression."

Here is an instance where it will really pay medicine to take a leaf out of the ledgers of commeree.

Let us "hang together" so we will not "hang separately."

SAVE A BILLION DOLLARS TO THE TAX PAYERS BY CARING FOR EX-SOLDIERS IN LOCAL HOSPITALS

Debacle of industrial systems throughout the civilized world brings every unit of modern life face-to-face with the necessity for elimination of expense where such elimination does not impair effieiency.

Since any federal endeavor can only be paid for by taxes levied upon the eitizens of the state it is plain that where federal aetivity of any sort increases taxes without increasing efficieney that such activity is to be deplored.

The stand taken by the medical profession that there is no reason for further construction of especial government hospitals to care for World War veterans rather than to distribute such patients among the 319,000 empty and available beds in civilian hospitals pivots upon this point.

No criticism in any way appertains to the splendid treatment and marvelous facilities offered at the veterans' hospitals. The point at issue is the fact that equally excellent treatment can be given these men in private hospitals already existing and frequently possessing the advantage of greater proximity to the home of the sick or disabled man. That these private hospitals are open to the government at the tremendous saving of about $120,000,000 without a single degree of impaired efficiency and indeed in some eases with *increased* efficiency thanks to the promptness with which treatment and care might be administered, is a matter of grave importance.

These same veterans—many of them—who share in the benefits from the government hospitals are also among the citizens who will have to pay taxes to finance the plan.

The whole dispute is a matter, not of medieal efficiency, but of financial economy. Either medical service is competent and efficient or it is not. There is no half way measure in the ethics of killing or curing a patient.

Now if a patient can have his life saved for five dollars in taxes there would seem to be no justifiable reason why he should be taxed five hundred dollars for the sake of finding his salvation under the aegis of a beautiful bureaucratie idea. That is exactly the point that the doctors have been talking about all along and are going to talk about.

What is known as the Shoulders' plan may not be perfeet but it is at least a step in the right direction. There would seem to be merely the apotheosis of idiocy in the United States government or any other government entering into a scheme to run the taxpayers into an investment of about a billion dollars—at least that before the end would be reached—that would by no means be permanent in any way exeept as an inereasing and permanent loss.

Local civilian hospitals have the world record for efficiency. World War veterans have a right to demand from their fellow citizens the best of hospital care. But there is no reason why the citizens should be called upon to assume an overpowering burden of expense that does not carry in its wake any greater benefit—and in some cases a much lesser one—than a modification and utilization of present facilities will afford.

Anybody who has had experience in wildfire borrowing or instalment plan buying knows that it is very much easier to take on a financial responsbility than it is to see it through, and in at least eighty per cent. of the cases before the contract has come to an end what had seemed at the outset to be rare advantages are discovered to be only burdensome millstones.

The following reached us through an exchange. It contains facts and figures worthy of careful digestion by physieians, taxpayers, as well as the ex-service men themselves:

INSURANCE PLAN FOR EX-SOLDIERS OF THE UNITED STATES

After the World War, enough hospitals were constructed or acquired to take care of all veterans for service-connected disability. By the year 1924, a large percentage of the beds were vacant.

Then Congress amended the World War Veteran's Act so that all veterans could be taken care of regardless of whether disability had service connection or not.

At the present time, all veterans are taken care of, regardless of nature of origin of disability. As of March 31, 1931, there are 53 hospitals having a bed capacity of 25,930 beds.

The consummation of this present government plan involves the construction of enough hospitals to in-

crease the number of beds by 103,000. Average construction cost to government is $3,500.00 a bed.

Total for construction about	$360,000,000.00
Cost of maintaining these hospitals as of 1930 was a bed per day	4.42
Per year per bed	1,613.30
Professional staff would cost per year	19,000,000.00
Thus the cost of maintenance a year would be about	200,000,000.00

This hospital plan comparatively helps only a few veterans and at enormous expense and then only, as far as caring for them, if they come to their hospitals.

There is a plan far superior to this, which has been presented by Dr. H. H. Shoulders of Nashville, Tennessee, and only slightly modified here.

Have the government enact a new law, giving all ex-service men a policy for accident and health with the following benefits:

Whenever totally disabled, either by accident or disease, from whatever cause, the ex-service man gets $20.00 cash a week and if in need of hospitalization from whatever cause, he can enter any local hospital or any hospital anywhere, the hospital being paid a flat rate of $20.00 a week for his care.

The medical or surgical care, receiving compensation from the Government at a fixed rate (to be determined before enacting the law). This policy to be terminated only at death of veteran.

Whenever enacted into a law, every veteran needing attention—because of total disability—would be able to receive it in his home community. He would receive $20.00 a week if needing hospital care, and would get it right away at no expense to him. Also the doctor would be paid by the government.

As an illustration: If a man gets influenza or pneumonia with a disability of six weeks, the cash income would be $120.00, and if needing hospital care he would have it right away. Also there would be no doctor bill to pay.

Another illustration: A case of acute appendicitis, with two weeks in the hospital and four weeks at home, total six weeks. When he returned to work, he would have $120.00 cash income during this time. His hospital bill would be paid and also the doctor bill.

This law would help every veteran some time or other. How many veterans would be helped by the present hospital plan? Who takes financial care of his family while he is in a government hospital?

If the veteran prefers a Government hospital, he is allowed to go there, but of course, there is no $20.00 paid to the hospital then, he gets the $20.00 a week cash himself.

The cost of this plan would be only one-half that of the present hospital plan. The co-operation of Mr. W. H. McBride, an actuary of the National Life and Accident Company of Nashville, Tennessee, was sought in regard to figuring the cost.

Supposing there are 4,000,000 veterans living now. One week total disability each a year is a generous estimate, and 10 per cent. needing hospitalization. At that rate, the benefits to veterans amount to $80,000,000.00, hospital benefits $8,000,000.00, medical and surgical benefits depending on rate agreed upon, administration cost $4,400,000.00, total $92,000,000.00.

This plan would be administered by present veterans bureau, as they have an organization that is doing just that kind of work, and the added cost would not be any greater than the estimate.

Add to this total the doctor's cost, say between $20,000,000.00 or $40,000,000.00. The probability is that the cost would be somewhere around $120,000,000.00, which would be less than one-half of the present hospital plan.

Present plans cost per year over $200,000,000.00, with cost of transportation of veterans to and from home, running it up considerable, and the $360,000,000.00 for added buildings, totaled.

The interest on the above items would be considerable, at least $10,000,000.00 a year, when the veterans would have passed away, this enormous investment in hospitals would have to be scrapped, or this enormous burden continued, by extending these benefits to other Government employes.

Even with all this expense, not one dime would have come to any veteran, only hospital care to those willing or able to avail themselves of it. Practically only chronic ailments could be taken care of, unless they lived very close to a government hospital.

By the insurance plan, every veteran sooner or later would receive financial benefit as well as hospital and doctor care.

This burden on the country would cease with the death of the veterans, and during its existence would cost less than one-half of what the present government plan will. Everyone would benefit.

This plan will not interfere with private insurance nor modify benefits which veterans with service connected disability are receiving.

DR. P. H. FARRELL A CANDIDATE FOR CONGRESS

We call your attention to the fact that Brig. Gen'l (Doctor) P. J. H. Farrell of Chicago is a candidate (9th District) for a seat in the National House of Representatives. The country has had suffering enough from vicious legislation planned by laymen to interfere with and dictate the practice of medicine.

In the name of humanity and progress let a few physicians have something to say about legislation. Congress is made up largely of lawyers; there are only a few physicians in the national body of lawmakers. Yet the doctor comes closer to the problem of the average citizen than any other professional man.

Dr. Farrell is a candidate (Democratic) for

Congress from the State of Illinois. He is capable, efficient and experienced. For the good of the country we should have several medical men representing us, both in Springfield and at Washington.

Go to the polls Primary Day, April 12, and vote for Brig. Gen'l (Doctor) P. J. H. Farrell.

COOK COUNTY HOSPITAL SUMMER CLINICS

The regular Summer Clinics given by the Staff of Cook County Hospital under the auspices of the Chicago Medical Society will be held during the weeks of June 6th to June 18th, inclusive.

As customary in time past, the usual $10.00 registration fee will be charged to cover the expense of organization.

These Clinics will be held during the time of the graduation exercises of the medical schools and will be a most convenient time for medical men to participate in the special activities of Alumni Week and also to attend the Post-Graduate Clinics at Cook County Hospital.

The Staff of Cook County Hospital and the Alumni organizations are each presenting independent programs that should be of interest to visiting physicians.

Applicants desiring to enroll for the Post-Graduate Clinics should make application as soon as possible to the Secretary of the Cook County Summer Clinics, care of the Chicago Medical Society, 185 North Wabash Avenue.

Dr. Philip H. Kreuscher,
Cook County Hospital.
Dr. Charles H. Phifer,
Chicago Medical Society.

THE ANNUAL MEETING PROGRAM

The preliminary program for the 82nd Annual Meeting of the Illinois State Medical Society to be held at Springfield, on May 17, 18, 19, 1932, is given in this number of the Journal. Every member of the Society should be interested in the Annual Meeting, as it is the member's own meeting, and one which should be well attended. The programs arranged by the various sections, are well planned, and excellent speakers have been procured to give the papers. The General Sessions will be especially appealing this year, and the Joint Session to be held on Tuesday afternoon, with all guest speakers from the various sections, will make a very interesting meeting.

The House of Delegates is formed by delegates from every component Society, regardless of its size, and every County Society in Illinois should see to it that a delegate is elected who will attend the meeting, and he should participate in the proceedings of each session of the House.

There will be a number of unusually important matters come before the House of Delegates at the meeting and it is vitally important that every Society be properly represented.

There will be an interesting display of both commercial and scientific exhibits which are deserving of the attention of everyone at the meeting. Only reliable commercial houses who have products of interest to physicians, are permitted to exhibit at the annual meetings, and all members should look these exhibits over carefully, and become better acquainted with these reliable firms, and their products.

The Scientific exhibits have been of increasing interest each year, and we are proud of the group that have been arranged for the 1932 meeting. Much time can be profitably spent among these scientific and commercial exhibits, which will be ready for exhibition on Tuesday morning, before the Scientific programs actually begin. The Annual Secretaries' Conference will be held at 10:00 A. M. Tuesday, May 17, and an interesting program has been arranged. Every Secretary, President and prospective officer of all Societies, as well as the membership as a whole, should attend the Conference and discuss the many problems coming up for their consideration.

Suitable entertainment has been arranged for the visiting ladies, and it is hoped that the ladies will be out in unusual numbers for the meeting. The Woman's Auxiliary to the Illinois State Medical Society has an interesting program, which will be of interest to all members, as well as those ladies from counties which have not as yet been organized. Look over this program carefully and plan to attend the meeting. The official program will appear in the May Illinois Medical Journal.

ILLINOIS STATE MEDICAL SOCIETY

EIGHTY-SECOND ANNUAL MEETING
SPRINGFIELD, ILLINOIS
May 17, 18, 19, 1932

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PROGRAM

Tuesday, May 17, 1932

10:00 A. M.—Board Meeting, Abraham Lincoln Hotel.

1:00 P. M.—Buffet Luncheon, Country Club, Bridge or Golf.

2:00 P. M.—County Presidents meet with Mrs. Mueller, President-Elect.

6:30 P. M.—Dinner for Board Members, County Presidents and Guests.

7:30 P. M.—General Opening Meeting, Illinois State Medical Society. Probably followed by Orpheum Party for members and guests.

Wednesday, May 18, 1932

9:30 A. M.—Business Meeting open to all members and guests.

1:00 P. M.—Luncheon for members and guests, Sangamo Club. Short address by the President, Mrs. T. O. Freeman. Address, E. P. Sloan, Bloomington. Introduction of new President, Mrs. Mueller.

4:00 P. M.—Social affair or drive (to be announced).

7:00 P. M.—President's Dinner, Illinois State Medical Society, at Abraham Lincoln Hotel.

Thursday Morning, May 19, 1932

9:00—New Board Meeting, with the President, Mrs. Mueller. Drive for visiting ladies.

LADIES' ENTERTAINMENT

A suitable program for the visiting ladies is being arranged and will be announced in detail, in the official program to be published in the May ILLINOIS MEDICAL JOURNAL.

SECRETARY'S CONFERENCE

W. D. Murfin, *President*.....Decatur
T. D. Doan, *Vice-President*.....Palmyra
H. A. Felts, *Secretary*.....Marion

Tuesday Morning, May 17, 1932, 10-12

1. "The Laity In Medicine." Thomas P. Foley, Councilor, 3rd District, Chicago.

The purpose of this paper will be to show the activities of various lay groups in the practice of medicine, in various ways.

2. "The Necessity for Correlation of County Society Programs." Ben Fox, Secretary, Franklin County Medical Society, West Frankfort.

In order to get the most from our Medical Society Programs and activities, the Counties lying contiguous to a common center should correlate their programs so that there will be no conflict in dates and that the members of the various surrounding Societies may attend the same meeting.

3. "The Practice of Medicine vesus The Profession of Medicine." Lee O. Frech, Decatur.

The contents of the paper deal principally with the problems of Organized Medicine stressing particularly the part played by the active practice of Medicine in detracting the attention and interest of Medical Men from the problems of the Medical Profession.

4. "Crippled Children's Clinics Conducted by the County Medical Society." Philip K. Kreuscher, Chicago.

The management of the Crippled Children's Clinics has heretofore been largely under the management of Lay Organizations. These Clinics should be entirely under the management of the County Societies, or in more sparsely settled parts of the State, several Counties should join together and conduct such a Clinic.

5. "The Care of the Indigent Sick—and Well." Cleaves Bennett, Chairman of the Council, Illinois State Medical Society, Champaign.

The poor we always have, have had, and will always have in the future. The Medical profession will always have to take care of them, because no other profession can do it. The Medical Profession ought to be and will have to be paid by someone for services rendered to the indigents.

MEETINGS OF THE HOUSE OF DELEGATES

Knights of Columbus Building

Tuesday, May 17, 1932

3:00—First meeting of the House of Delegates called to order by the President, R. R. Ferguson, for reports of Officers, Councilors and Committees, and to transact other business that may come before the House.

Thursday Morning, May 19, 1932

8:30—Second meeting of the House of Delegates called to order by the President for election of Officers, Councilors, Committees, Delegates to the American Medical Association; Report of Resolutions Committee and necessary action on Resolutions, and for the transaction of other business that may come before the House.

At the close of this final meeting of the House of Delegates, the President-Elect, John R. Neal, will be inducted into the office of President of the Illinois State Medical Society, by the retiring President.

General Sessions

Tuesday Evening, May 17, 1932

General Opening Meeting.

7:30—Meeting officially opened by the President, R. R. Ferguson.

Invocation—Reverend Edw. J. Haughton, Rector of St. John's Episcopal Church, Springfield.

Address of Welcome—Hon. John Kapp, Jr., Mayor of Springfield.

Address of Welcome—C. A. Frazee, M. D., President, Sangamon County Medical Society.

Report of Chairman, Committee on Arrangements, Don Deal.

Address—"The Sequential Development of the Physical Sciences." E. H. Cary, President, American Medical Association, Dallas, Tex. (By invitation.)

The General Opening Meeting is open to the public, and it is hoped that many lay folks will be present to hear the unusually interesting talk to be given to them by Dr. Cary.

Wednesday Afternoon, May 18, 1932

1:00—President's Address—R. R. Ferguson, President, Illinois State Medical Society, Chicago.

1:30—Oration in Medicine—Fred M. Smith, Professor of Medicine, University of Iowa Medical School, Iowa City, Iowa. "The Modern Aspect of Rheumatic Heart Disease."

2:30—Oration in Surgery—Jabez N. Jackson, Kansas City, Missouri. "Physiologic Considerations in Surgery of the Abdomen."

President's Dinner

Abraham Lincoln Hotel

Wednesday Evening, May 18, 1932, 6:30

This evening will be given entirely to a tribute to our President, R. R. Ferguson. Suitable entertainment will be a part of the proceedings, to be announced later.

Following the dinner, the President's Certificate will be presented to President Ferguson by Cleaves Bennett, Chairman of the Council of the Illinois State Medical Society.

It is hoped that every member of the Society attending this Annual Meeting will arrange to attend the President's Dinner.

Veterans' Luncheon

The Veterans' Service Committee has arranged a luncheon to be given at the Abraham Lincoln Hotel on Tuesday, May 17, 1932, at 12:00 noon. The Committee extends an invitation to all physicians who are ex-service men to attend this interesting function, which will be attended by a large group of Legionnaires.

Toastmaster—Thomas P. Foley.

Program

1. "What the Hospital Does for the Veteran." Col. Hugh Scott, Manager, Edward Hines, Jr., Hospital, Hines, Illinois.
2. "What the American Legion Does for the Veteran." Edward Hayes, Past Commander, American Legion, Department of Illinois, Nation Executive Committeeman, and Chairman of the Rehabilitation Committee. Decatur, Illinois.
3. "What Organized Medicine Can Do for the Veteran." H. H. Shoulders, Secretary, Tennessee State Medical Association, Nashville, Tennessee.

It is hoped that every ex-service member of the Illinois State Medical Society will attend this luncheon, as well as all other members of the Society who are interested in the welfare of veterans, and who wish to see the best service given to those who actually deserve it.

The Stag

Immediately following the General Opening Meeting on Tuesday Evening, May 17, the Sangamon County Medical Society will be host to the members and visitors of the male sex, at a Stag Entertainment. There seems to be an unusual amount of secrecy relative to the nature of the program, but our ever active news gatherers hope to have more details in time to tell the news in the May Journal.

Section of Medicine

Warren Pearce.....*Chairman*
Walter H. Nadler.....*Secretary*

Tuesday, Afternoon, May 17, 1932

Knights of Columbus Building

Joint Session with Sections on Surgery, Public Health and Hygiene, and Radiology. Program by Guest Speakers.

1:00—"Public Health Education." H. E. Kleinschmidt, New York City.

1:40—"The Toxemias of Pregnancy and Their End Results from the Viewpoint of Internal Medicine." W. W. Herrick, New York City.

2:20—"Subject to Be Announced." Floyd E. Keene, Philadelphia, Pennsylvania.

3:00—"The Diagnosis and X-Ray Treatment

of Malignant Diseases of Bone." Sherwood Moore, St. Louis, Missouri.

3:40—"Subject to Be Announced." David P. Barr, St. Louis, Missouri.

4:20—"Subject to Be Announced." Alfred Brown, Omaha, Nebraska.

Wednesday Morning, May 18, 1932

9:00—"Influenza and Pneumonia—A Report of Epidemics at the Illinois School for the Deaf and Blind." George L. Drennan, Jacksonville.

9:30—"Periarteritis Nodosa." George Parker and Milton G. Bohrod, Peoria.

10:00—"Factors of Importance in the Treatment of Exophthalmic Goiter." Willard O. Thompson, Chicago.

10:30—"Parathyroidism and Parathyroidectomy." A. A. Mertz, Decatur.

11:00—"Hypertensive Arterial Disease." Edward J. Stieglitz, Chicago.

11:30—"The Treatment of Peptic Ulcer with Gastric Mucin." Samuel J. Fogelson, Chicago.

Wednesday Afternoon, May 18, 1932

3:00—Chairman's Address. Warren Pearce, Quincy.

3:20—"Bronchoscopy in Chest Diseases." M. H. Winters, Galesburg.

3:40—"The Original Diagnosis in 2,000 Cases of Definite Pulmonary Tuberculosis." George T. Palmer, Springfield.

4:00—"Newer Clinical Concepts of Blood." James W. Sours, Peoria.

4:20—"When the Cause of Heart Disease Is Obscure." Emmet Keating, Chicago.

4:40—"Chronic Ulcerative Colitis." M. H. Streicher, Chicago.

Thursday Morning, May 19, 1932

9:00—"Acute Abdominal Conditions in Children." Bernard Portis, Chicago.

9:30—"True Hyperthyroidism in Children." Lindon Seed, Chicago.

10:00—"Recent Developments in the Treatment of Chorea Minor." Walter M. Whittaker, Quincy.

10:30—"The Use of Convalescent Serum and Human Blood in Suspected Poliomyelitis." Orville Barbour, Peoria.

11:00—"Tuberculosis of Childhood." M. Pollak, Peoria.

11:30—Subject and speaker to be announced.

SECTION ON SURGERY

Jas. T. Gregory.....*Chairman*

Sumner M. Miller.....*Secretary*

Tuesday Afternoon, May 17, 1932

Joint Session with Sections on Medicine, Public Health and Hygiene, and Radiology. All guest speaker program.

1:00—"Public Health Education." H. E. Kleinschmidt, New York City.

1:40—"The Toxemias of Pregnancy and Their End Results from the Viewpoint of Internal Medicine." W. W. Herrick, New York City.

2:20—"Subject to Be Announced." Floyd E. Keene, Philadelphia, Pennsylvania.

3:00—"The Diagnosis and X-Ray Treatment of Malignant Diseases of Bone." Sherwood Moore, St. Louis, Missouri.

3:40—"Subject to Be Announced." David P. Barr, St. Louis, Missouri.

4:20—"Subject to Be Announced." Alfred Brown, Omaha, Nebraska.

Wednesday Morning, May 18, 1932

9:00—"Parenteral Administration of Liver Extract in Post-Operative Treatment." J. K. Narat, Chicago.

9:30—"Bile Ducts and Jaundice, With Relation to Operative Risks in Gall Bladder Disease." B. Markowitz, Bloomington.

10:00—"Treatment of Prostatic Obstruction." Herman L. Kretschmer, Chicago.

10:30—"Local Anesthesia As an Aid in the Reduction of Fractures." Lieut Commander M. D. Wilcutts, Great Lakes.

11:00—"Electrical Shock." Hart E. Fisher, Chicago.

11:30—"The Maggot Treatment of Chronic Osteomyelitis." G. W. Staben, Springfield.

Wednesday Afternoon, May 18, 1932

3:00—"Mortality and Morbidity in Surgical Cases and the Factors That Influence Them." R. K. Packard, Chicago.

3:30—"Appendicitis Mortality in 1605 Cases." C. E. Black, Jacksonville.

4:00—"The Significance of Bleeding at the Anus." Charles Drueck, Chicago.

4:30—"Subject to Be Announced." J. H. Bacon, Peoria.

5:00—"The Use of Bichloracetic Acid in Surgery." Edw. H. Ochsner, Chicago.

Thursday Morning, May 19, 1932

Joint Session with Section on Medicine—Subject: Pediatrics.

9:00—"Acute Abdominal Conditions in Children." Bernard Portis, Chicago.

9:30—"True Hyperthyroidism in Children." Lindon Seed, Chicago.

10:00—"Recent Developments in the Treatment of Chorea Minor." Walter M. Whittaker, Quincy.

10:30—"The Use of Convalescent Serum and Human Blood in Suspected Poliomyelitis." Orville Barbour, Peoria.

11:00—"Tuberculosis of Childhood." M. Pollak, Peoria.

11:30—"Some Observations About the Treatment of Uterine Fibroids." John Murphy, Toledo, Ohio. (By invitation.)

SECTION ON EYE, EAR, NOSE AND THROAT

Wright C. Williams.....*Chairman*
Frank J. Novak, Jr.....*Secretary*

Tuesday, May 17, 1932

1. "Laryngo-Fissure; A Plea for Early Diagnosis of Neoplasms." Robert Sonnenschein and Samuel Pearlman, Chicago.

Discussion opened by H. L. Ford, Champaign.

2. "The Complications of Cataract Surgery in India." Louis Bothman, Chicago.

Discussion opened by O. B. Nugent, Chicago.

3. Diagnosis and Treatment of Laryngeal Tuberculosis." Frank R. Spencer, Boulder, Colorado. (By Invitation.)

Discussion opened by John A. Cavanaugh, Chicago.

4. "The Trigemino—Vagal Reflex; Experimental and Clinical Considerations." Burton Haseltine, Chicago.

Discussion opened by George B. Lake, North Chicago.

5. "Primary Glaucoma Management." Michael Goldenburg, Chicago.

Resolves itself into two divisions, namely, surgical and non-surgical. Non-surgical management depends on close and intelligent cooperation of the patient, frequent examination, tabulation of the vision, intraocular pressure and perimetric fields. The most important drugs on which we still must depend for the maintenance of these phenomena within comparatively normal limits are Eserine and Pilocarpine. Surgical management may be divided into two forms of procedure. First, those in which the operative techniques is directed toward reestablishment of drainage through the classical avenues of fluid escape; e. g., the spaces of Fontana and canal of Schlemm. Second, that technique that may be classified as decompression operations, wherein the intraocular fluids are compelled to make their escape into the subconjunctival spaces.

Discussion opened by Ralph H. Woods, La Salle.

6. "Problems in Ophthalmology." Leo L. Mayer, Chicago.

The paper deals with a review of current problems in ophthalmology. The major stress is laid upon four topics. Clinical and experimental methods in detachment of the retina are discussed. The prevailing theories and therapies concerning glaucoma are brought forward for consideration. The new trend of intracapsular cataract extraction is emphasized. An experimental investigation of lens constituents is commented upon. The various phases of the trachoma problem are noted. A sketchy review of current opinions concerning certain ocular conditions pertaining to the lids, cornea, conjunctiva, sclera, extraocular muscles, and uvea and retina is given. Some of the more highly technical phases of ocular and related neurological problems are commented upon. A complete bibliography of the papers discussed accompanies the article.

Discussion opened by Walter Stevenson, Quincy.

7. "Malignancies of the Tongue with Special Reference to Treatment by Irradiation." Joseph C. Beck and M. Reese Guttman, Chicago.

This paper discusses the fact that besides the usual factors that influence the therapy of malignant disease of the tongue, such as size, location, extent, one of the most important is the histological structure of the neoplasm and its relation to the biological properties of the tumor. Special attention is called to the fact that the adult, more or less fully differentiated squamous cell carcinomata are slow in growth, metastasize late, and are best treated by early wide excision, most preferably by the electro-thermic method. On the other hand, highly anaplastic cellular epitheliomas of the tongue have a life history that is characterized by early wide diffuse metastasis, and are also extremely radio sensitive and are therefore best treated by irradiation with interstitial radium and telio radium therapy or the use of a radium pack at a distance.

The problem of dealing with the metastatic glands of the neck is also discussed and appropriate surgical and irradiation therapy described. Illustrative cases of the various points mentioned in the article are reported.

Discussion opened by Thomas C. Galloway, Evanston.

8. "The Safest Cataract Operation With Reference to Astigmatism Following Corneal Conjunctival Suture." (Illustrated by lantern slides.) Samuel Higgins, Milwaukee, Wisconsin. (By Invitation.)

Discussion opened by A. B. Middleton, Pontiac.

9. "Allergic Nasal Disease." L. Benno Bernheimer, Chicago.

Allergic Nasal Disease—The treatment of allergic diseases is often unsatisfactory both from the stand-

point of the Allergist and the Rhinologist. Based on a pathological study of these nasal conditions, we wish to present a new method of treatment by radiation, which we have found uniformly satisfactory in the treatment of both Seasonal and Non-Seasonal allergic nasal disease.

Discussion opened by Harry S. Arkin, Chicago.

Wednesday, May 18, 1932

10. "Agranulocytosis." Austin A. Hayden, Chicago.

Discussion opened by J. P. Simonds, Chicago.

11. "Purpura Hemorrhagica — Schoenlein-Henoch's Purpura, With Report of a Case." J. Sheldon Clark, Freeport.

Cases of purpura hemorrhagica are not infrequent. The symptoms, as a rule, are those affecting tissues of the body other than the eye. It is not thought of as a disease likely to be manifested by severe eye complications. A report of a case that resulted disastrously to vision in both eyes is therefore deemed timely.

Discussion opened by Harry S. Gradle, Chicago.

12. "Radical Mastoid Operation Without Plastic Surgery." Maurice H. Cottle, Chicago.

Discussion opened by Irving Muskat, Chicago.

13. "Types of Ocular Hemorrhage." (With lantern demonstration.) Alexander E. McDonald, Toronto, Canada. (By Invitation.)

Pathologic findings to show how hemorrhage affects vision by:

1. Interfering with the transparency of the media.
2. Disturbing the rods and cones.
3. Disrupting the conduction of the nerve fibers.
4. Blocking the escape of the intraocular fluids—secondary glaucoma and thrombosis.
5. Distending the unsupported dura of the optic nerve.

Discussion opened by Ephraim K. Findlay, Chicago.

14. "Management of Tabetic Optic Atrophy." George Francis Suker, and Max M. Jacobson, Chicago.

The authors present a necessary brief resume of the facts establishing the pathology which is found in tabetic optic atrophy. The various methods used in the treatment of tabetic optic atrophy, such as subcutaneous, intravenous, intrathecal and intracranial medicaments, or combinations of these are discussed. The method of choice in cases reported is the intracranial route with mercury bichloride.

Discussion opened by Harold Gifford, Chicago.

SECTION OF PUBLIC HEALTH AND HYGIENE

Arlington Ailes..... .....*Chairman*
Arnold H. Kegel.....*Secretary*

Tuesday Afternoon, May 17, 1932

Joint Session with Sections on Medicine, Surgery and Radiology. Program by Guest Speakers.

1:00—"Public Health Education." H. E. Kleinschmidt, New York City.

1:40—"The Toxemias of Pregnancy and Their End Results from the Viewpoint of Internal Medicine." W. W. Herrick, New York City.

2:20—"Subject to Be Announced." Floyd E. Keene, Philadelphia, Pennsylvania.

3:00—"The Diagnosis and X-Ray Treatment of Malignant Diseases of Bone." Sherwood Moore, St. Louis, Missouri.

3:40—"Subject to Be Announced." David P. Barr, St. Louis, Missouri.

4:20—"Subject to Be Announced." Alfred Brown, Omaha, Nebraska.

Wednesday Morning, May 18, 1932

Symposium on Public Health Education

9:00—"A Plea for Systematic Health Education." J. Howard Beard, Urbana.

9:20—"The Value of Health Education as Seen by the Layman." Clara R. Brian, Bloomington.

9:40—"Effectiveness of Public Health Education as Seen by the Practitioner of Medicine." David L. Lewis, Springfield.

10:00—"Health Education from the Viewpoint of the School Official." J. B. McManus, La Salle.

10:20—"The Value of Public Health Instruction and Public Health Work as Seen by the Public Health Official." B. K. Richardson, Springfield.

10:40—Discussion of the Symposium on Public Health Education.

1. Layman.....Irene M. Symonds, Hinsdale
2. Physician.....F. J. Maciejewski, La Salle
3. Public Health.....I. D. Rawlings, Chicago
4. General.....A. A. Crooks, Peoria
5. Summary.....
....H. E. Kleinschmidt, New York City

Wednesday Afternoon, May 18, 1932

3:00—"Immunization Against Scarlet Fever." Ralph P. Peairs, Normal.

Discussion opened by J. J. McShane, Springfield.

3:30—"Pasteurization vs. Raw Milk." H. A. Harding, Detroit, Michigan. (By Invitation.)

Discussion opened by N. O. Gunderson, Rockford.

4:00—"Modern Water and Sewage Treatment

Works of Springfield." Harry F. Ferguson, Springfield.

4:20—"Inspection Trip to the Springfield Water and Sewage Treatment Works" immediately following Mr. Ferguson's paper. Transportation furnished, with Mr. Ferguson conducting and explaining the processes.

Thursday Morning, May 19, 1932

9:00—"Brucilliasis in Animals." Robert Graham, Urbana.

Discussion opened by H. W. Allyn, Byron.

9:30—"Undulant Fever." Lloyd Arnold, and H. E. McDaniels, Chicago.

Discussion opened by R. O. Stites, Industry.

10:00—"Diseases Transmissible from Animals to Man of Major Public Health Importance." Andy Hall, Springfield.

Discussion opened by Robert Graham, Urbana.

10:30—"Some Legal Aspects of Public Health and Medicine." Clarence C. Griggs, Ottawa.

Discussion opened by A. J. Roberts, Ottawa.

11:00—"The Public Health Aspect of Institutional Care of Indigent Patients by the State Department of Public Welfare." Major Worthington, Chicago.

Discussion opened by Lloyd Arnold, Chicago.

SECTION ON RADIOLOGY

E. L. Jenkinson.....*Chairman*
P. G. Goodwin.....*Secretary*

Tuesday Afternoon, May 17, 1932

Knights of Columbus Building

Joint Sessions with Sections on Medicine, Surgery and Public Health and Hygiene. Program by Guest Speakers.

1:00—"Public Health Education." H. E. Kleinschmidt, New York City.

1:40—"The Toxemias of Pregnancy and Their End Results from The Viewpoint of Internal Medicine." W. W. Herrick, New York City.

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4:20—"Subject to Be Announced." Alfred Brown, Omaha, Nebraska.

Wednesday, Morning, May 18, 1932

9:00—Chairman's Address. E. L. Jenkinson, Chicago.

9:30—"The X-Ray Diagnosis of Chronic Appendicitis." Harold Swanberg, Quincy.

10:00—"The Prevention of Cancer." E. G. C. Williams, Danville.

10:30—"The X-Ray Treatment of Metropathies, Other Than Malignant." M. J. Hubeny, Chicago.

11:00—"Pneumopericardium Due to a Foreign Body in the Esophagus." Robert A. Arens, Chicago.

11:30—"Easily Overlooked Conditions Causing Partial or Complete Obstruction of a Bronchus." Chas. D. Sneller, Peoria.

Wednesday Afternoon, May 18, 1932

3:15—Business Session. Election of Officers.

3:30—"Hernia of the Lung." Harry A. Olin, Chicago.

4:00—"Anomaly of the Arch of the Aorta." Report of a Case. D. L. Jenkinson, Chicago.

4:30—"Radiographic Studies of the Mechanics of the Temporal Mandibular Joint." David Beilin, Chicago.

RULES GOVERNING THE PRESENTATION OF PAPERS

All papers read by members shall be limited to twenty minutes and remarks in discussion to five minutes, floor privilege being allowed only once for the discussion of any one subject.

All papers read before the Society or any of its Sections shall become the property of the Society. Each paper shall be deposited with the Secretary of the Section when read and the presentation of a paper to the Illinois State Medical Society shall be considered tantamount to the assurance on the part of the writer that such paper has not already appeared and will not appear in medical print before it has been published in the Illinois Medical Journal.

A paper not heard in its scheduled turn shall be held subject to the call of the Chairman of the Section at the end of the regular session if time permits, or as an alternative at the end of the program.

All subjects shall be confined strictly to the subject in hand. No paper shall appear in the printed transactions of the meeting unless read in full or in abstract.

(From the By-Laws of the Illinois State Medical Society.)

EXHIBITORS AT 1932 ANNUAL MEETING

American Medical Association, 535 North Dearborn Street, Chicago.

A. S. Aloe Company, 1819 Olive Street, St. Louis, Mo.

DePuy Manufacturing Company, Warsaw, Ind.

General Electric Corporation, Jackson Boulevard at Robey Street, Chicago, Ill.

Gerber Products Division, Freemont Packing Co., Freemont, Mich.

Curdolac Food Company, Waukesha, Wis.

Mead Johnson Company, Evansville, Ind.

Don Baxter Intravenous Products Co., 445 Lake Shore Drive, Chicago, Ill.

V. Mueller & Company, Ogden Avenue and Van Buren Street, Chicago, Ill.

W. B. Saunders Company, Philadelphia, Penna.

Merck & Company, New York City, N. Y.

General Foods Corporation, 250 Park Avenue, New York City, N. Y.

Mellin's Food Company, Boston, Mass.

S. M. A. Corporation, Cleveland, Ohio.

Sharp & Smith, 65 East Lake Street, Chicago, Ill.

Hynson, Westcott & Dunning, Baltimore, Md.

Kellogg Company, Battle Creek, Mich.

Horlick's Malted Milk Corporation, Racine, Wis.

Chas. H. Phillips Chemical Company, New York City, N. Y.

White-Haines Optical Company, Columbus, Ohio.

Medical Protective Company, 360 North Michigan Boulevard, Chicago, Ill.

Uhlemann Optical Company, 55 East Washington Street, Chicago, Ill.

The Zimmer Manufacturing Company, Warsaw, Ind.

Petrolagar Laboratories, 8134 McCormick Boulevard, Chicago, Ill.

Northwestern University Medical School, Chicago, Ill.

St. John's Hospital, Springfield, Ill.

University of Illinois School of Medicine, Chicago, Ill.

Illinois Department of Public Health, Springfield, Ill.

Illinois Tuberculosis Association, Springfield, Ill.

Groves B. Smith, Godfrey, Ill.

Post Graduate School of Surgical Technique, 2512 Prairie Avenue, Chicago, Ill.

Cleveland J. White, Chicago, Ill.

Nathan S. Davis and Samuel J. Lang, Chicago, Ill.

NOTES ON EXHIBITS

The Curdolac Food Company of Waukesha, Wisconsin, has been co-operating with the physicians of America for the past six years. By supplying products whereby the diabetic may have a complete diet well within his tolerance for food, the physician is enabled to keep diabetes under control. Not only flour, from which attractive foods may be prepared at home, but an extensive variety of knick-knacks, which the diabetic so sadly misses are offered. For the first time these foods will be exhibited to the doctors of Illinois at your convention in Springfield. No physician dares to promise a cure to diabetics but you can guarantee efficiency and contentment by outlining a diet which will contain three satisfactory meals daily. We will welcome you at Booth No. 18.

In the Sharp & Smith Booth there may be found the most complete line of surgical instruments that is possible for any house to obtain. The exhibit comprises several new items including the Davis Resectoscope, Kirschner Bone Apparatus, Magnuson electric motor and such other specialties as have been developed exclusively by Sharp & Smith. Mr. Frazen, in charge of the exhibit, will be delighted to show any doctor the many new articles on exhibit and to explain their various uses.

Scientific Medical Motion Pictures will be presented by Petrolagar Laboratories in a beautiful, modern display. Visitors may relax and devote uninterrupted attention to this splendid library of films of international reputation. The list comprises twelve exceptionally instructive subjects. Presentations before accredited medical groups may be arranged for any place or rate, without charge. Further information may be obtained at Booth No. 5.

Uhlemann Optical Company, Chicago, Illinois.—Exhibit of Ophthalmic Specialties and Equipment distributed and sold exclusively to the Medical Profession.

All members of the Illinois State Medical Society and friends are cordially invited to visit Booth No. 38 of the Medical Protective Company. Mr. M. L. Allen of Peoria will be delighted to have you call, whether merely to say "hello" and renew old acquaintances or to satisfy yourself on some question of malpractice protection. Consider him at your service and feel free to call upon him for anything which may contribute to making this the most pleasant and successful Society meeting you have ever attended."

DePuy Manufacturing Co. will exhibit at the 82nd annual meeting modern Fracture Appliances for the physician and surgeon. The New Improved Bed Pan Bohler Splint (Patent Pending) with double traction. The Simplified Aeroplane Splint, Campbell type. The Portable Rachlin Pelvic Seat (Patent Pending), which will fit either the Hawley or Albee Table and can also be placed on a tripod to be used in the home, as well as the hospital. Patients can be placed on the Pelvic Rest, either in supine or prone position, and rest in comfort. Also the DePuy Cervical Splint (Patent Pending), is a very comfortable and useful appliance for cervical fractures from the first to the fifth vertebrae for ambulatory patients. We also call your attention to the Kirschner Drill and the DePuy Kirschner Bow, Dr. J. A. Keyes type. We cordially invite you to call on us at Booth No. 4, whether you want to purchase anything or not. Your genial friend, "Red" Bates, will be in charge of this exhibit and will be glad to extend you any courtesy. You know you are always welcome.

Merck & Co., Inc., include in their display such well-known preparations as Pyridium—the only azo dye

compound offered as a urinary antiseptic, Arsphenamines, Bismosol—the aqueous solution of bismuth, Tryparsamide, Stovarsol, Digitan, Erythrol Tetranitrate, etc. Mr. F. Kraus and Dr. M. V. Burgett will be in charge of the Merck's products at booth No. 11.

Horlick's Malted Milk Corporation in Booth No. 21 will show that carefully controlled experiments have demonstrated that Horlick's the Original Malted Milk, used regularly, builds strength and increases resistance to diseases, due in part to the fact that Horlick's is a good to excellent source of Vitamins and Minerals. Special packages of Horlick's Malted Milk Tablets are also being distributed as a reminder of their usefulness, as a pleasing variant in the liquid diet, or as a beneficial confection for children in place of candy. Horlick's Maltose & Dextrin Milk Modifier is also on display, which has achieved a marked success for use in infant feeding.

Effective, Palatable, Convenient—these qualities are typified in Phillips' Milk of Magnesia Tablets. Each tablet contains 4.8 grains of freshly precipitated Magnesium Hydroxide-Mg (OH)2 in its highest purity, the magnesia equivalent of one teaspoonful of Genuine Phillips' Milk of Magnesia. All the therapeutic effects of Genuine Phillips' Milk of Magnesia can now be obtained in the form of a friable mint-flavored tablet which rapidly disintegrates in the mouth or stomach and produces prompt results. Samples may be obtained at Booth No. 8.

The A. S. Aloe Company of St. Louis, Missouri, invites visitors to the 82nd Annual Meeting of the Illinois State Medical Society to visit booth number 1, where may be seen a complete line of "Super-X" Chrome Plated Instruments, together with a large showing of Surgical Equipment and Supplies. The A. S. Aloe Company wishes to call the attention of the profession to their new low prices on everything for the professional man.

W. B. Saunders Company will exhibit a complete line of their publications of interest to physician, surgeon and specialist. Included will be a large number of new books and new editions. Of particular importance is the work of Drs. Trumper and Cantarow on Biochemistry in Internal Medicine—really a clinical interpretation of biochemical findings; the new Mayo Clinic Volume; a completely rewritten edition of Bastedo's Materia Medica and Therapeutics; a new edition of Pelouze's work on Gonorrhea in the Male and Female; a new edition of Cecil's Medicine, of Todd and Sanford's Clinical Diagnosis; a new work on Hemorrhoids and Anal Pruritus by Dr. Buie; Graves' Female Sex Hormonology; new edition of McLester's work on Nutrition; new edition of Stevens' Practice of Medicine, of Wechsler's Clinical Neurology and of Jordan's Bacteriology. Among the important standard works are Graham's Surgical Diagnosis; Blumer's Bedside Diagnosis; Medical Clinics of North America and the Surgical Clinics of North America; Beckman's Treatment.

The Kellogg Company, Battle Creek, Michigan, will serve Kaffee Hag Coffee with All-Bran Muffins to visitors at their booth at the Illinois Medical Convention. Kaffee Hag Coffee is a blend of fine coffees from which 97 per cent. of the caffeine, together with the indigestible wax have been removed. The fine flavor and aroma are not impaired and doctors will find Kaffee Hag Coffee a satisfactory non-stimulating beverage to suggest for special diets. Kellogg's All-Bran contains valuable quantities of assimilable iron and Vitamin B and because of its bulk is valuable in correcting cases of atonic constipation. Mrs. Winifred Loggans from the Home Economics Department will be in charge of the exhibit.

Mead, Johnson & Co. will have on exhibit its complete line of infant diet materials, including Mead's Dextri-Maltose, Mead's Cod Liver Oil, Mead's Viosterol, Mead's Recolac, Mead's Non-Curdling Powdered Protein Milk, Mead's Lactic Acid Milk, Mead's Powdered Yeast, and Mead's Cereal. There will also be for the examination of physicians a complete line of Mead's services, such as diets for older children, height and weight charts, etc., all of which are free to members of the medical profession in any quantity desired. Representatives will be on hand to meet their friends and to discuss the application of any of the Mead products to infant feeding problems.

Allergy is a subject that is earning greater attention from physicians these days because it appears that a number of obscure ailments may be traced to allergic conditions. The Research Division of the S. M. A. Corporation has developed a new product known as Smaco Hypo-Allergic Milks, which is especially prepared for individuals sensitive to milk. Go to their Booth Number 20 and learn about this product, and ask their representative for a copy of their twenty-four page booklet entitled "Milk Allergy" which covers the subject quite completely. S. M. A., the antirachitic breast milk adaption, Protein S. M. A. (Acidulated), a special form of S. M. A. for diarrhea cases, as well as their various Smaco milk products for difficult feeding cases, are also on exhibit.

At Booth 12 unseasoned, strained vegetables are of interest because they offer an opportunity for better control of infant and special diets and insure uniformity in feedings and diets. Visitors at the Gerber Products booth will be given any information wanted concerning the special process used in manufacture of these products. New booklets are available—one on infant feeding for distribution by physicians in their practice and on therapeutic diets for professional use.

A decided innovation for the intravenous administra-

tion of Glucose will be exhibited at Space Number Three at the coming Springfield meeting of the Illinois State Medical Society. This is known as the Vacoliter (Baxter) Glucose solutions and, we are informed, combines a sterile, protein-free glucose in various percentages that keeps indefinitely and a calibrated container from which the solution is administered direct to the veins of the patient. This product is said to fill a long-felt want for those interested in the intravenous use of this valuable therapeutic agent. Apparently all expensive glassware and breakage is eliminated, and the hospital relieved of the responsibility of preparation. Certainly a great convenience for emergencies, at night —as a home use—its instant availability should appeal to all.

An interesting exhibit of optical products will be found in Booth No. 37, which will be the space occupied by the White-Haines Optical Company, wholesale opticians, who have Springfield offices and shop located at 526 E. Capitol Avenue. The White-Haines exhibit will be in charge of Mr. E. F. Wildermuth, General Sales Manager of the company, Mr. Donald Hunter, White-Haines representative, and Mr. Joe Kihn, Manager of the White-Haines, Springfield. Bausch & Lomb products are to be featured, including Orthogon full-vision and Soft-Lite glare-free lenses. A new "far and near vision" lens, called panoptik, which is said to give the presbyopic patient "natural vision with comfort," will be explained. Another bifocal to be featured, according to White-Haines, is the new color-free Orthogon "D." Particularly interesting will be the display of Bausch & Lomb Ophthalmic instruments, including the new Binocular Ophthalmoscope which has aroused so much interest lately among eye physicians. In addition to instruments and lenses, a beautiful new line of frames and mountings with the new comfort improvement, Bal-Guard, are to be displayed as a feature of the White-Haines Blue Ribbon Rx Service. Be sure to see the White-Haines booth in space No. 37 if you are doing eye work.

The most recent and approved apparatus for bone surgery will be prominently displayed by V. Mueller & Co. at their exhibit in connection with the 82nd annual meeting of the Illinois State Medical Society, to be held at Springfield, May 17-18-19. Of special interest will be a demonstration of the Bendixen-Kirschner Apparatus for skeletal traction and the Bendixen Bone Clamp for open reduction of fractures. The V. Mueller exhibit will also include a representative showing of the 10,000 items regularly carried in stock at their Chicago headquarters. Salesmen will be on hand at all times to explain or demonstrate any instrument or piece of equipment on display and to furnish illustrative literature.

The source, nature and amount of nutritive elements that enter into the making of Mellin's Food, the composition of the finished product, the caloric value of various quantities by weight and by measure and what Mellin's Food accomplishes as a modifier of milk in the feeding of infants and adults are subject matters for discussion at Booth No. 13. All physicians are cordially invited to call, to ask questions and to offer suggestions that will lead to a thorough understanding of Mellin's Food and its purpose.

The Post Graduate School of Surgical Technique, 2512 Prairie Avenue, Chicago, Illinois, a school for the teaching of surgical technique open to graduates of medicine in good standing who are engaged in surgical practice. Courses are given as follows: A three months course in pathology, dissection and surgical technique; a two weeks course of extensive surgical practice and special courses for the man who is practicing in a given specialty and who wishes to improve his knowledge of anatomy, surgical pathology and a more extensive training in the technique of surgery.

St. John's Hospital, Springfield, will demonstrate their interesting and complete system of record filing, and cross filing, which will be of interest to all physicians interested in hospital work. This system has been built up after many years of work, and it is believed to be one of the best systems of the kind in use anywhere at this time. The exhibit will be in charge of Dr. Walter G. Bain, the Medical Superintendent.

Other interesting scientific exhibits are being arranged which will be mentioned in the Official Program, to appear in the May issue of the ILLINOIS MEDICAL JOURNAL.

The Illinois Tuberculosis Association will have an unusual exhibit, which is being prepared for the Annual Meeting of the American Medical Association to be held in New Orleans, the exhibit being arranged by Dr. H. E. Kleinschmidt of New York City, who, with the Executive Secretary of the Illinois Tuberculosis Association, Mr. W. P. Shahan, will show the exhibit at the Illinois State Medical Society Springfield Meeting. The exhibit is a display of X-ray pictures made on paper stock and celluloid stock of identical patients, displayed in multiple viewing boxes, with a viewing device. The new paper films are only recently displayed for exhibit purposes, and we are indeed fortunate in being able to show this demonstration as a Scientific Exhibit.

Northwestern University Medical School, Chicago, will have some interesting exhibits, one of which is to be shown by Dr. Cleveland J. White, of the Department of Dermatology, on "Cancer of the Skin." This exhibit consists of photographs, pathology and charts

relative to treatment and clinical findings in 172 interesting cases.

Nathan S. Davis, and Samuel J. Lang, of Chicago, will have an exhibit on "Hypertension," with the result of treatment with calcium lactate, potassium thiocyanate, bismuth subnitrate, and sodium nitrate, together with charts illustrating seasonal variations and the frequent occurrence of heart failure symptoms when the blood pressure is lowered for one reason or another.

Dr. Groves B. Smith of Beverly Farm, Home and School for nervous and backward children, of Godfrey, Illinois, will have an interesting exhibit entitled "The Occupational and Educational Relationships in Mental Deficiency." This will be shown by motion pictures, and also a demonstration will be made of the work many of these backward children are doing in the school.

NOTES OF SCIENTIFIC EXHIBITS

The American Medical Association will have an interesting exhibit showing in detail what the Association is doing not only for the Medical Profession of America, but also what it is doing to protect the public in general, from false representations made by many who prey on the afflicted citizens. Among the several departments to be represented in this exhibit are the Council on Pharmacy and Chemistry, Chemical Laboratory, Bureau of Investigation, Council on Medical Education and Hospitals, Bureau of Legal Medicine and Legislation, the Library, Bureau of Health and Public Instruction, and the Council on Physical Therapy. This will be an unusually interesting exhibit for all members and guests at the meeting.

The Illinois Department of Public Health will have a joint exhibit with the University of Illinois College of Medicine. These exhibits are designed to give an understanding of the disease from the standpoint of mortality and a presentation of methods of control and prevention. The units include of pathological specimens, X-ray pictures, motion and still pictures, wax models, and microscopical views relative to each disease. Reasonably careful inspection of these exhibits gives to the observer a very practical conception of the historical importance of each of the diseases and of its present importance as a medical and public health problem. It will also give the observer a practical knowledge of how these particular diseases can be controlled and to what degree control measures are effective at the present time. The exhibit on slaughter house meat inspection and the one on distribution of milk emphasizes particularly the importance of sanitary precautions in connection with food supplies. These exhibits are made up in the following units: Tuberculosis, Pneumonia, Typhoid, Diphtheria, Heart, Cancer, Animal Experimentation, Slaughter House Meat Inspection, Milk Distribution.

SEVEN HUNDRED AND FIFTEEN MILLION DOLLARS SPENT IN UNITED STATES YEARLY FOR MEDICINES

According to the committee on the costs of medical care, authentic figures on the nation's drug purchases are given as follows:

The people of the United States spend $715,000,000 annually for drugs and medicines, which constitutes about 20% of the national bill for sickness.

Of this amount $190,000,000 (26.6%) is spent for medicines prescribed by physicians; $165,000,000 (23.1%) for non-secret home remedies and $360,000,000 (50.3%) for "patent medicines" of secret composition. These facts are brought out in a report just issued by the Committee on the Costs of Medical Care.

This report, "The Costs of Medicines," published by the University of Chicago Press, discloses authentic figures on the drug industry in this country obtained through a three-year study on the subject made for the Committee on the Costs of Medical Care by Dr. R. P. Fischelis, vice-president of the American Pharmaceutical Association, and Dr. C. Rufus Rorem, formerly a staff member of the Committee. In November this Committee will issue its final report, which will include recommendations based on its exhaustive five-year study into the problem of "the delivery of adequate, scientific medical service to all the people, rich and poor, at a cost which can be reasonably met by them in their respective stations in life."

U. S. Families Spend $22 Annually for Drugs. It was discovered that the average expenditure for medicines is approximately $22 annually per family of four persons, or $5.50 per member. Actual expenditures per capita vary widely, however, and tend to be highest in the cities.

Other important facts this survey disclosed include the following:

1. Patients attempting to diagnose their own ailments by comparing their symptoms with those described in patent medicine advertisements may frequently forego proper medical attention until it is too late to effect a cure.

2. "Official" medicines can usually be purchased by the pharmacist for a fraction of the price of proprietary medicines or ethical special-

ties, with a corresponding reduction in price to the patient.

Merchandising Activities Make Registered Pharmacists Available. 3. Provided they were engaged in no other pursuits, approximately 10,000 pharmacists could fill the 165,000,000 physicians' prescriptions now annually filled by 115,000 registered pharmacists in 60,000 drug stores. Limiting the compounding of prescriptions to 10,000 pharmacists in as many drug stores, however, would leave many communities without pharmacists and in larger communities would spread the number of pharmacies, making it inconvenient for the public to obtain prompt prescription service.

Merchandising activities of drug stores, frequently derided, make the services of registered pharmacists available and more convenient to the public.

4. Although regulations governing the pharmaceutical profession are strict enough, the privileges of unlicensed persons operating outside of pharmacy are so extensive that the public enjoys little protection in the sales of packaged medicines.

5. While self-medication is increasing, there is not available sufficient information on which the public can base its judgment as to what type of medicine may safely be used for the treatment of simple and minor conditions.

$1.50 *Per Capita Annually Expended Through Doctor.* 6. Drugs prescribed or dispensed through doctors do not constitute a large portion of the total costs of medical care. Physicians' prescriptions plus the drugs dispensed in doctors' offices average approximately $1.50 per person per year.

"It is significant," the report reads, "that the costs of medicines to patients are still lower when the conditions of treatment permit a physician to prescribe only such medicines as he considers necessary to good results." Such conditions exist, according to the report, where medical service is rendered on an "annual" rather than a fee basis, as in industrial or university health services.

Millions Wasted on Patent Medicines. Few of the so-called "patent medicines" are actually registered as to ingredients and granted patents from the United States Patent Office. Most of them are protected by trade names which become, through registration and usage, the property of the manufacturer or distributor. The formulas are secret.

The report states that "so long as secrecy of composition is permissible for medicines offered for self-medication, and so long as the public is kept in ignorance of the proper uses and value of common drugs, the quack will find some method to ply his trade."

Expenditures for fraudulent cures range from $15,000,000 upward each year.

Recommendations Made for Future of Pharmacy. The authors made four recommendations based on their survey for the Committee on the Costs of Medical Care. They are:

1. Secret-formula drugs and medicines should be abolished through the compulsory disclosure on the label of the kind and quantity of medicinal ingredients. Those developing new and distinct preparations should be financially protected by appropriate privileges granted by a disinterested agency.

2. All manufacturers of drugs and medicines should be required to operate under annual licenses to be granted by the federal government upon the fulfillment of satisfactory conditions with regard to competency of personnel, equipment and sanitary surroundings, and standardization of finished products.

3. Agencies should be established to prepare and disseminate accurate information concerning the proper use of home remedies appropriate for self-medication with the aid of a committee of physicians and pharmacists of unquestioned reputation and standing. Universal and unnecessary use of self-prescribed medicine should be rigorously discouraged.

4. Professional knowledge of pharmacists should be used more adequately by reducing physicians' reliance on branded products; by permitting pharmacists to instruct drug store customers in proper use of medicines purchased for self-medication, but not to the extent of diagnosing ailments or recommending medicines; by the pharmacists distributing information dealing with medicines and hygiene prepared by health departments; and by supplying information to the public concerning physicians and hospitals on the basis of data provided by local medical or hospital associations.

WISCONSIN SUPREME COURT HOLDS CHIROPRACTORS ARE NOT PHYSICIANS

The Wisconsin Medical Journal, March, 1932, publishes a decision of the Supreme Court which holds that chiropractors are not physicians. We quote:

Declaring that a chiropractor is not a physician, even though he treats the sick, and that the services of a chiropractor are not the services of a physician under any conditions, the Wisconsin Supreme Court in February rendered a sweeping decision against chiropractors in a case that arose under the workmen's compensation act. The decision reverses the Circuit Court, which had held against the Industrial Commission.

The case arose in Green Bay when a city fireman obtained treatments of a chiropractor for an injury received in his line of duty. The Commission refused to allow the claim of the chiropractor and the Circuit Court upheld the chiropractor. This decision was reversed by the Supreme Court, Justice Fowler writing the Court's opinion. Because of its importance, it is printed in full herewith:

"The only point involved is whether the charge of a registered chiropractor for treatment of an employee entitled to compensation under the workmen's compensation act is allowable as an item of his compensation. The Commission held that it is not and disallowed the item. The circuit court reversed the Commission's order and directed its allowance.

"Under the governing statute, sec. 102.09, Stats. 1927, the expense of treatment recoverable is limited to 'medical, surgical and hospital treatment * * * or at the option of the employee * * * (under certain circumstances) Christian Science treatment in lieu of medical treatment.'

"The learned circuit judge based his reversal upon the idea that chiropractors give medical treatment as that term is defined in ch. 147 of the statutes, which is headed 'Treatment of the Sick' and governs the practice of medicine and surgery. While it is true that according to that chapter chiropractors do treat the sick and that their treatment is 'medical treatment,' it does not necessarily follow workmen's compensation act contemplates. The legislature might give such meaning under the fact to the term 'medical treatment' as it saw fit, whether it corresponded with the definition of ch. 147 or not. Doubtless we should hold that under the act the term has the same meaning as in ch. 147 unless the act indicates clearly that it uses the term with a different meaning. But we are of opinion that under the act the only medical treatment contemplated is medical treatment administered by a physician; and we are also of opinion that a chiropractor is not a physician as that term is used in the act and in ch. 147.

"Manifestly the statute does not consider Christian Science treatment as medical treatment, although it constitutes treatment of the sick and treatment of disease. Such treatment is 'in lieu of medical treatment', therefore it is not medical treatment. The same is true, under the act, of chiropractic treatment. From the act it appears very clearly that the act contemplates that only physicians may give the medical or surgical treatment for which compensation is allowable. By the terms of the act the employee must choose his 'attending physician' from the 'panel of physicians named by the employer' in the first instance. Failure to maintain a reasonable number of 'competent and impartial physicians' and to permit the employee to choose 'his attendant (physician) from among them' is a neglect and refusal to furnish medical and surgical 'attendance and treatment,' the Commission may on hearing permit an employee to select a 'physician' not on the employer's panel. In determining the 'reasonableness and size of the medical panel' of the employer, the Commission must take into consideration the number 'of competent physicians immediately available.' All this indicates that it is only physicians for whose attendance the employee may be compensated.

"Under ch. 147 a chiropractor is not a physician, even though he does treat the sick and treat diseases and diagnose. Under that chapter, physicians are licensed to practice medicine (sec. 147.17); while chiropractors receive a 'certificate of registration in the basic sciences and a license to practice chiropractic.' Sec. 147.23. But 'no certificate of registration shall be considered as the equivalent of a license (to practice medicine).' Sec. 147.17. And 'no person

not possessing a license to practice medicine and surgeory, or osteopathy, or osteopathy and surgery under sec. 147.17 shall use or assume the title 'doctor' or append to his name the words or letters 'doctor,' 'Dr.,' 'specialist,' 'M. D.,' or 'D. O.' Sec. 147.14 (3). Thus these names and letters may be applied only to those who are licensed as physicians to practice medicine and surgery and conversely those to whom the names and letters may not be applied are not physicians. It is held in Isaacson v. Wisconsin Casualty Co., 187 Wis. 25, N. W., that a chiropractor is not a 'legally qualified physician' under the terms of an accident insurance policy, even though he does treat the sick in a restricted way. The conclusion seems to be based upon the fact that, under the statute as it then stood, chiropractors might 'practice their profession' without procuring a license, and the term 'legally qualified physician' in the policy meant a 'licensed physician,' but it seems plain that it might and perhaps more reasonably have been held that a chiropractor is not a physician at all. The definition of physician first given in Bouvier's Law Dictionary (2 Rawle's 3d Ed. 2586) is: 'A person who has received the degree of doctor of medicine.' One of the definitions in Webster's Dictionary is 'a doctor of medicine.' In line with these definitions, and ch. 147, we are of the opinion that the word 'physician' as used in the compensation act does not include a chiropractor.

"The appellants contend that the 1931 legislature, by passing Bill 497, A., which, had it been vetoed by the Governor, would have expressly put chiropractors on the same footing as practitioners of Christian Science healing under the workmen's compensation act, indicates a legislative understanding or intent that chiropractors are not to be considered as physicians under that act. The suggestion is not without force, although standing alone it might not be controlling. As above stated, Christian Science treatment under the act is not 'medical treatment,' but 'in lieu' of it and chiropractic if on the same basis would not be 'medical treatment' within the meaning of the act.

"By the Court.—The judgment of the circuit court is reversed with directions to confirm the award of the Industrial Commission."

SOCIAL INSURANCE*

Most Governments Are Inefficient or Corrupt—Some Are Both. (Continued)

The founders of our government subdivided it into three branches; the administrative, the legislative, and the judiciary. This was done on the theory that each had a distinct function to perform and that they would all act somewhat as checks and balances upon each other. This seemed logical at the time and undoubtedly has many advantages, but our founders did not and could not foresee one of its dangers and one of the abuses to which this division was to be put, namely, the practice of sidestepping duty and responsibility. One of the chief governmental in-and-outdoor sports today is "passing the buck," with an "open season" the year around.

In a project involving as many problems as Social Insurance does, all the branches of the government would be involved in its execution—the administrative in administering it, the legislative in enacting the necessary laws, and the judiciary in adjudicating them. Let us then examine briefly how the different branches have deported themselves in the more recent past. Let us start by examining just one typical administrative activity of both the federal and the state governments.

Individual members of the medical profession have repeatedly called attention to the great need of a careful study of all delinquents and criminals in our state and federal institutions in order to determine the mental and physical condition of each member of these two classes with a view to their rehabilitation and possible reclamation and yet, almost nothing has been accomplished along these lines by governmental agencies. Dr. Frank L. Rector, who recently completed a survey under the auspices of the National Society for Penal Information on health and medical work in all state and federal prisons and adult reformatories, states unequivocally that in not one of these institutions is there a well-rounded balanced medical and health program. While some of them provide acceptable accommodation for the care of the acutely sick or injured, there is little or no provision for the rehabilitation of the physically handicapped so that they will be better equipped for earning an

*Fourth installment of Dr. Edward H. Ochsner's articles on Medical Economics.

honest living after their discharge to civilian life.

Just one typical example. On the day Dr. Rector visited the Ohio State Penitentiary, there were four thousand, four hundred seventy-five prisoners within its walls, of which one hundred fifty-six were hospitalized. There was but one physician on the staff; all other attendants at the hospital were prisoners. While the physician was nominally on a full time basis he was carrying on an outside private practice as his salary was insufficient to meet his living expenses. What can one part-time physician accomplish with that many patients, a large per cent. of whom are physically handicapped, mentally abnormal and emotionally maladjusted? Ohio is a fair example. In most of the other penitentiaries and in the federal prisons conditions are no better and in some even worse.

Now let us investigate some of the legislative problems. While nearly every legislative body contains some men of outstanding ability the great majority of legislators have not the slightest conception of what is required of their position and blindly follow their party bosses who are not generally known for their altruism, their patriotism, or a burning desire to promote the public welfare. One of the worst features of our legislative activities is the fact that a small, well-organized and insistent minority can usually get its measures enacted into law unless some other group is adversely affected by the proposed legislation and makes a counter-attack.

Another bad method of securing legislation is the system of trading. An interesting occurrence of this sort happened in the state of Illinois in 1923. About that time a Chicago mayor was disgracing not only his city and state but the nation by the slogan, "Hit King George on the Snoot." A free citizen from the corn lands of the state decided that he would like to be sent to the state legislature, took up the battle cry, had just one plank in his platform, namely to make the American language the official language of the state. He was elected. By use of extensive vote trading he secured the passage of the following:

OFFICAL STATE LANGUAGE

An act establishing the American language as the official language of the State of Illinois. (Approved June 19, 1923. L. 1923, p. 7). Preamble.

177. (American language.) 1. Be it enacted by the people of the State of Illinois, represented in the General Assembly:

The official language of the State of Illinois shall be known hereafter as the "American" language.

(So much for administrative and legislative inefficiency. The next article will take up the judiciary.)

MEDICAL AND DENTAL WOMEN'S ASSOCIATION CENTURY OF PROGRESS

At a meeting held March 16 at the Newberry Hotel, representing women members of the medical and dental profession, there was organized the Medical and Dental Women's Association of Century of Progress.

The purpose of this organization is to promote the interests of women physicians and dentists during the Century of Progress.

The following officers were elected:

President, Bertha Van Hoosen.

Vice-Presidents, Dora Hendrickson, Goldye L. Hoffman, Clara Gottschalk, Carolyn MacDonald, Julia Strawn, Eloise Parsons, Vida Latham.

Secretary, Edith B. Lowry.

Treasurer, Lena Sadler.

A RESOLUTION BY THE ILLINOIS BOARD OF MEDICAL EXAMINERS

WHEREAS, It has come to the attention of this Board that a faculty committee has been appointed to consider changing the status of courses of instruction in hygiene at the University of Illinois; and

WHEREAS, The members of this Board are in a particularly advantageous position to know that unreliable and even dangerous alleged medical advice and service is often chosen through ignorance by large numbers of intelligent citizens in preference to sound, ethical scientific professional service on the one hand, and that many college graduates manifest in practical life a serious lack of knowledge concerning the most important principles of sanitation, nutrition and hygiene on the other; and

WHEREAS, This situation makes the public an easy prey to unscrupulous exploiters of proprie-

tary remedies and other practices which have profound and far-reaching unfavorable influence over health and life; and

WHEREAS, It is deemed to be the primary function of educational institutions to guide students into channels of study which will teach them how to live; therefore, be it

Resolved, That this Board deems it a duty and a responsibility to express to the officials of the University of Illinois its unanimous and unequivocal opinion that a practicable course in hygiene should be a compulsory requirement for students who matriculate as freshmen at the University of Illinois; and, be it further

Resolved, That copies of these resolutions be placed in the hands of the Director of the Department of Public Health of the State of Illinois, the Superintendent of Public Instruction for the State of Illinois, the Dean of the Medical College of the University of Illinois, the Health Officer of the University of Illinois, and to the Council of the Illinois State Medical Society; and, be it further

Resolved, That copies of these resolutions be sent to President Chase of the University of Illinois.

Board of Medical Examiners.

FRATERNITY MEN, ATTENTION

GENERAL GATHERING OF FRATERNITY MEN AND THEIR FRIENDS ILLINOIS STATE MEDICAL MEETING

Tuesday, May 17, at 6:00 P. M., University Club Springfield

A ROUSING GATHERING TYPICAL OF THE OLD SCHOOL FRATERNITY SPIRIT IS DESIRED

ALUMNI, ATTENTION!

GENERAL ALUMNI MEETING TO BE HELD MAY 18 AT NOON, ROOF GARDEN, ELKS CLUB

CORRECTION

In the February, 1932, issue of the JOURNAL in the article by Harry O. Veach, page 174, line 34, column 1, August 21 should read August 12.

BANQUET FOR MEDICAL LEGION MEMBERS

A banquet for physicians who are members of the American Legion has been arranged to take place in Springfield at 12 o'clock noon on Tuesday, May 17th, the first day of the annual meeting of the Illinois State Medical Society. Immediately following the banquet the meeting will be opened to the friends of the American Legion who are invited to hear three splendid addresses by

1. Edward Hayes, Decatur, Ill., Chairman of the National Rehabilitation Committee of the American Legion.

2. Col. Hugh Scott, M. D., Walter Hines Hospital, Chicago.

3. Dr. Harrison H. Shoulders, Nashville, Tenn.

This is the first time that a meeting of the character has ever been planned in connection with State Medical Society activities. Dr. R. D. Dugan, Springfield, is chairman of the American Legion Committee and has arranged the program. He will announce further details in the next issue of the JOURNAL.

GOLF TOURNAMENT AT SPRINGFIELD

There will be a women's golf tournament open to any lady who is a guest of the Illinois Medical Society at the Springfield meeting. It will be held at the Grand View Country Club at 10 A. M. Monday, May 16. Those desiring to play will please send their names to Dr. Richard F. Herndon, Myers Bldg., Springfield, Ill., as soon as possible. An effort will be made to furnish transportation to and from the club grounds.

MAKE HOTEL RESERVATIONS EARLY—ANNUAL MEETING

Springfield is pleasurably awaiting the meeting of the Illinois Medical Society on May 17, 18, 19, 1932. Springfield is a city of national historical interest, which every Illinoisan and American should give at least one appreciative visit, and May is a delightful month in which to do this.

Hotel reservations should be made as soon as possible to avoid a last minute rush. Rooms can be had at varying prices, from the de luxe accommodations of the larger hotels, to those of the smaller, quieter, and less expensive hostelries. There is ample space for all and every purse can be suited.

The Committee on Hotel Accommodations will gladly co-operate in any way possible to make your Medical Week a success and pleasure.

It is keenly hoped that members will bring their wives and families along. The women of

the Auxiliary of the Medical Society are planning a hearty welcome for the ladies and will exert themselves in every way to make this visit one to be remembered.

The Sangamon County Medical Society and their Ladies' Auxiliary also join in sending an urgent invitation to you, Dr. and Mrs. Physician, to come to Springfield for this Medical Meeting, on May 17, 18, 19, 1932, to visit us and to visit our town, the home of Abraham Lincoln, and the capital of your State.

Send your reservations direct to the hotels.

HOTEL RATES

Abraham Lincoln Hotel	300 rooms	$3.00 to $7.00
St. Nicholas Hotel	350 rooms	2.00 to 6.00
New Leland Hotel	150 rooms	1.75 to 7.00
Illinois Hotel	60 rooms	1.25 to 2.50

There are other hotels, which are smaller but comfortable.

GOLF TOURNAMENT AT ANNUAL MEETING

"There will be a golf tournament at the annual meeting for interested doctors on Tuesday morning, May 17, 1932. We would like to have every county represented in the tournament. County Secretaries or individual golfers may write to Dr. F. P. Cowdin, Chairman, Golf Tournament Committee, 320½ South Fifth St., Springfield."

PHRENIC EXERESIS IN TREATMENT OF PULMONARY TUBERCULOSIS

Francis B. Trudeau, Saranac Lake, N. Y. (*Journal A. M. A.*, Jan. 23, 1932), states that a sufficient number of cases of phrenic exeresis have been reported to date to warrant the statement that this operation has earned for itself a definite place in phthisiotherapy. The indications for its use are found largely in unilateral cases, in patients who do not respond well after several months of usual bed rest treatment, or who have persistent open cavities with positive sputum, or constant cough and expectoration as prominent symptoms. It is further indicated as a safeguard for those who cannot or will not receive proper treatment after leaving the sanatorium; also in the great majority of cases in which pneumothorax has been tried without success, as well as an adjunct for many pneumathorax cases, and, lastly, either preceding or following thoracoplasty, to insure a more perfect collapse. The operative dangers and complications are so rare that they may be absolutely disregarded. The results seem to show that some benefits are derived in more than half at least of the cases in which it is tried. Although one does not often see the miracles following the use of phrenicectomy that so frequently occur in many cases of artificial pneumothorax, yet in many cases it has stemmed the tide and led to the road to recovery.

Correspondence

TAKE INDIVIDUAL INTEREST IN PRIMARIES AND ELECTION

Springfield, Ill., March 19, 1932.

To the Editor: Enclosed please find a copy of a letter going forward to all candidates of record for the next general assembly.

The council of the Society, through its legislative committee, sends out at frequent intervals during a legislative session a bulletin which is mailed gratis to all interested members, thus keeping over a thousand physicians in the state in touch with such laws that have either a remote or a direct bearing on the practice of medicine.

It is most important for you to know the character and type of men of your district who are seeking the endorsement of the voters to represent them in the next Illinois State Legislature. It is indeed fitting and proper that the medical profession take a very active part, not only in the proposed bills introduced in the legislature regarding the public health, but also in the type and capabilities of those who seek the very important duty of enacting such laws.

It is well to scan the list of candidates in your district, and the chairman of the legislative committee, at Springfield, can furnish the records regarding the members seeking re-election as to their attitude in previous sessions regarding health measures.

If the interest of physicians is not aroused in this day of political changes regulatory laws inimical to the medical profession are sure to appear. The officers of the Illinois State Medical Society through the very able efforts of the editor of its Journal, have fought valiantly for years to place Illinois in a most enviable position regarding medical matters. Illinois was one of the few states which refused to cooperate with the Sheppard-Towner federal law, and its refusal was pivotal in the defeating of that law, and it is only the unified efforts of the physicians of Illinois that will prevent the concurrence with a similar federal law if another is enacted in Washington.

It is imperative, therefore, that you take an individual interest in the primaries and the election which will decide the personnel of the next general assembly, and such interest on your part

will evidence the endorsement of your officers and their legislative program.

J. R. Neal, M. D.,
Chairman Legislative Committee.

BELOW IS A COPY OF LETTER SENT TO LEGISLATIVE CANDIDATES

MEDICAL REGULATORY LAWS SHOULD BE ENACTED BY THE STATE OF ILLINOIS WITHOUT FEDERAL AID OR HINDRANCE

To the candidate addressed:

As a candidate for the Illinois General Assembly you will no doubt be interviewed by many groups interested in legislation to be opposed or favored.

At each session of the legislature there are many bills offered which relate to the public health.

The Illinois State Medical Society, composed of thousands of physicians throughout the State, through its officers, makes an effort each session to inform the legislators regarding the merits or necessity of any bill which is of general interest to the people of Illinois regarding their health.

The Illinois State Medical Society does not resort to having large lobbies come to Springfield to favor or oppose any given measure. Neither does that Society resort to the so-called "grateful patient endorsement," for the Society is opposed to having thousands of letters from such sources sent in to Springfield to encumber the arduous duties of the legislator. The 1933 session of the Illinois Legislature will have many controversial subjects to deal with, and a number of groups are extremely active at this time trying to gain favors or pre-election promises.

The Anti-Vivsectionists, an organization ably financed and largely sponsored by a group of excellent ladies are attempting through false propaganda to tear down the very foundation upon which scientific medicine has been builded. They will attempt to put the love for a dog far in advance of the life of a child. Animal experimentation, as conducted by reputable colleges and laboratories, is not inhuman and there is none of the bestial brutality as the proponents for such a bill would have you believe.

The purpose of this letter, therefore, is merely to ask that you keep your mind open and not to make promises without thoroughly investigating the good or evil of such a measure. We would suggest that you do not promise your support to medical men, anti-vivisectionists, chiropractors, osteopaths, naprapaths, sanatologists, or any of the other many groups who seek special privilege legislation.

There is an increasing effort upon the part of a number of well organized groups who, desiring lucrative positions and increased political power, have abandoned efforts to gain certain legislative measures in the forty-eight states, and have decided to concentrate their effort at Washington and obtain a national law, and then to crowd that law down the throats of the state legislators for concurrence, thus robbing the individual state of its own sovereign rights. This class of legislation has always been opposed, and always will be opposed, by the Illinois State Medical Society.

The famous Sheppard-Towner Infant and Maternity Act was of this type, being passed by Congress and carried on for a period of five years, expiring in 1928. The government matched the state's appropriation with an equal amount of money to carry on the propaganda, and it is needless to say that a large portion of the money of the government is obtained from taxes originating in the twelve largest states. Carefully compiled statistics fail to show anything like a convincing argument that the five years effort, and the several million dollars expended, had any effect whatsoever upon the mortality of mothers and children. Illinois, through its legislature, refused to participate in that law, and the mortality statistics in Illinois compare favorably with the other states in the Union, and are better than many of the states which accepted the federal subsidy.

An earnest effort is now being made in Congress to perpetuate a similar measure to the Sheppard-Towner Act. The Illinois State Medical Society is radically opposed to such a measure.

Other federal bureaus and commissions are being considered in Washington which would supersede state laws having a bearing on the same problems. All such commissions and bureaus which would have supervisory power over the practice of medicine are in our opinion wrong, and such regulatory laws should be enacted by the State of Illinois without federal aid or hindrance.

The Illinois State Medical Society will appre-

ciate the opportunity to cooperate with the legislature in an effort to keep Illinois as one of the outstanding states of the Union regarding adequate laws to protect the health of the citizenry of the State.

J. R. Neal, M. D.,
Chairman Legislative Committee.

DO THE VETERANS GET SOMETHING FOR NOTHING?

March 28, 1931.

To the Editor:

On June 7, 1924, Congress amended the World War Veterans' Act authorizing the admission of veterans to Government Hospitals for disabilities that were not service connected. The effect of this action by Congress is noted from the following quotations (except for the capitals used) from the Annual Report of the Administrator of Veterans' Affairs for the year 1931. On Page 14 the report reads "Since June 7, 1924, when hospitalization was first authorized for the Veterans of all wars without regard to the origin of their disability, 324,205, or APPROXIMATELY FIFTY-SEVEN PER CENT. OF ALL ADMISSIONS HAVE BEEN OF THE NON-SERVICE CONNECTED CLASS. Of the total admissions during this fiscal year 82,850, or SEVENTY-SIX PER CENT. WERE FOR THE TREATMENT OF NON-SERVICE CONNECTED DISABILITIES, as compared with 13,243 or seventeen per cent. in 1925, the first year following the passage of this amendatory legislation.

The first sentence of Section 202 (10) of the World War Veterans' Act of 1924, as amended, authorized the hospitalization of honorably discharged veterans of specified wars who are suffering from tuberculosis, neuropsychiatric diseases and certain named general conditions regardless of the origin of such disabilities, while the second sentence authorized the hospitalization, *IN SO FAR AS EXISTING FACILITIES PERMIT,* of veterans of any war not dishonorably discharged, without regard to the nature or origin of the disability.

"During the first year following the passage of this legislation the number of veterans admitted to hospitals, under the first sentence of said section formed forty-seven per cent. of the total admissions for non-service connected conditions. Subsequent to that time the number and percentage of these cases have decreased annually until in 1931 they formed but twenty-one per cent. of the total admissions of this class. THE GENERAL MEDICAL AND SURGICAL CASES ADMITTED TO HOSPITALS UNDER THE SECOND SENTENCE OF SAID SECTION *HAVE INCREASED RAPIDLY* AND DURING THIS YEAR FORMED APPROXIMATELY *SEVENTY-NINE PER CENT.* OF THE ADMISSIONS FOR DISABILITIES NOT DETERMINED TO BE OF SERVICE ORIGIN."

Particular attention is directed to the section of the second paragraph of Section 202 (10) where it is stated that admissions under this particular section, are, to quote the words, "IN SO FAR AS *EXISTING FACILITIES* PERMIT."

From the section of the same report under the heading "Hospitalization" on Page 6 we note the following (capitals excepted) "In the matter of hospitalization the new administration, like its predecessor, the former Veterans' Bureau, experienced difficulty in fulfilling all of the demand for Government hospital facilities, due to the *CONSTANTLY INCREASING PRESSURE* FOR HOSPITALIZATION THAT IS BEING EXERTED BY VETERANS WITH DISABILITIES NOT ATTRIBUTABLE TO MILITARY SERVICE."

It might be thought that the term "In so far as existing facilities permit" would relate to the admission of the service connected cases in the existing facilities and the use of the surplus of the "existing facilities" for the non-service connected demands. It apparently was not intended, at that time, to expand hospital facilities except for service connected cases, but once the tail got wagging it dominated the horse.

To again quote from the above mentioned report it is noted on Page 6: "Since June of 1924 when hospitalization was first authorized for the veterans of all wars without regard to the origin of their disabilities, the PATIENT LOAD FOR THE NON-SERVICE CONNECTED CLASS HAS INCREASED UNTIL IT NOW FORMS 54.27 PER CENT. OF THE TOTAL, an increase of approximately 8 per cent. since June, 1930. This marked increase is further reflected in an analysis of the admissions to all hospitals during this year WHICH SHOWS THAT OVER THREE-FOURTHS OF THE TOTAL

WERE OF THE NON-SERVICE CONNECTED CLASS.

"IF IT IS TO BE THE POLICY OF OUR GOVERNMENT TO FURNISH HOSPITALIZATION TO THE VETERANS OF ALL WARS WHETHER THEIR DISABILITIES ARE DUE TO SERVICE OR OTHERWISE *AND SUCH APPEARS LIKELY* IN VIEW OF THE ACTION OF THE LAST CONGRESS WHICH SPECIFICALLY AUTHORIZED FOR THE FIRST TIME THE ACQUISITION OF FACILITIES FOR THE VETERANS OF ALL WARS, then the existing and authorized Government facilities WILL HAVE TO BE MATERIALLY INCREASED TO MEET FUTURE DEMANDS.

"MOST OF THE PRESENT PRESSURE FOR HOSPITAL ACCOMMODATIONS IS BEING EXERTED BY VETERANS SUFFERING FROM GENERAL DISEASES OR CONDITIONS, which also will be true in the future due to the increase in the number and frequency of diseases and conditions of this type which come with advancing years. For the neuropsychiatric type there has been a marked and constant growth in the hospital load which should continue for the next twenty years, although to a much less extent than that expected for the general type.

"IT APPEARS THAT ADDITIONAL HOSPITAL FACILITIES WILL NOT BE REQUIRED TO MEET THE FUTURE DEMANDS OF EITHER THE SERVICE CONNECTED CASES AS A WHOLE OR THE TUBERCULOUS TYPE OF PATIENT."

From the above quoted statement it appears a poor business policy for the Government to go on constructing, equipping and maintaining hospitals in the face of a national deficit thereby adding to the tax burden of an already overloaded and dissatisfied taxpayer.

Quoting further from the same report it is noted on Page 20: "On June 30, 1931, there were in operation 54 veterans' hospitals with a combined capacity of 26,307 beds as compared with 47 hospitals and 22,732 beds on June 30, 1930. . . In addition to the beds in Veterans' hospitals there was on June 30, 1931, a total of 9,732 beds available to beneficiaries of the Veterans' Administration in other Government hospitals, distributed as follows: United States Army, 2,265; National Homes, 2,252; United States Navy, 3,794; United States Public Health Service, 1,039; Interior Department, 382. In all Government Hospitals on June 30, 1931, there was a total of 36,039 beds available to the Veterans' Administration as compared with 31,525 at the beginning of this fiscal year."

To quote from Page 22 of the same report: "THE HOSPITAL LOAD FOR VETERANS WITH DISABILITIES NOT DETERMINED TO BE OF SERVICE ORIGIN *HAS GRADUALLY BUT CONSISTENTLY* INCREASED until it now forms over fifty per cent. of the total. In other words of some 35,000 patients remaining in hospitals on June 30, 1931, whose admission thereto was authorized by the Veterans' Administration, but approximately 16,000 WERE BEING TREATED FOR SERVICE CONNECTED CONDITIONS."

Using the report of the Administrator of Veterans' Affairs for the year 1931 for the fiscal year ended June 30, 1931, as a basis for argument if 36,000 beds were available and but one-half occupied by veterans with service connected disabilities why in these trying times construct, equip and maintain hospitals until the bed capacity has reached an estimated capacity of 139,000 beds? The thought occurs that the saving in taxes for the 4,000,000 veterans in the arrest of this uncalled for and un-American pauperization of the ex-service men would leave them in a financial position to support and maintain the hospitals already established in their local communities.

To return to this report on Page 22 we find: "The extent to which additional hospital construction beyond that authorized by the act of March 4, 1931 (this act authorized the appropriation of the sum of $20,877,000) will be required by the Veterans' Administration is WHOLLY DEPENDENT UPON THE DEGREE TO WHICH CONGRESS DECIDES TO PROVIDE GOVERNMENT HOSPITAL ACCOMMODATIONS FOR THE VETERANS OF ALL WARS REGARDLESS OF THE ORIGIN OF THEIR DISABILITY."

Even veterans of the World War will not live forever and after the peak of disabilities is passed what a wonderful machine will exist in the United States for the communistic practice of medicine.

Again quoting from Page 22 of the same re-

port: "Upon completion of the construction authorized by the act of March 4, 1931, there will be available in Government hospitals, exclusive of the beds normally required for members in the national soldiers' homes, A TOTAL OF OVER 45,000 BEDS OR A NUMBER SUFFICIENT TO ACCOMMODATE *BOTH THE ESTIMATED SERVICE CONNECTED AND NON-SERVICE CONNECTED LOADS THROUGH THE YEAR 1935.*"

Again using this report as the basis of a sane, logical argument if the building as authorized by the act of March 4, 1931, will handle the estimated service connected and non-service connected loads until 1935 by the same reasoning this number of beds should accommodate all the service connected cases that would occur until after the estimated peak year of veterans' disability. If that is so, and we take the Veterans' Administration statement for it, why add the burden of this monumental expense in the continued building, equipping and maintaining of Government hospitals to lay the foundation for state medicine and add unnecessary taxation to the veterans who are now between the ages of thirty-six and forty-six.

Again quoting from Page 22: "Beyond this (1935), studies indicate that the Government hospital facilities thus far authorized will have to be materially increased if veterans with non-service connected conditions are given a mandatory right to hospitalization."

If veterans are to be given a "mandatory right to hospitalization for non-service connected disabilities" why does not Congress go the limit and give mandatory right to all the necessities of life. If this "mandatory right" makes it necessary to build hospitals with a total bed capacity of 139,000 built at an estimated cost of $1,500 per bed, eqnipped and maintained at a cost running into hundreds of millions, then give free clothes, free shoes, free light, freat heat and free food.

Who PAYS THE BILL? The 4,000,000 ex-service men of the country pay a large share of it, so we ask the veterans through their organizations, "DO THE VETERANS GET SOMETHING FOR NOTHING?"

VETERANS' SERVICE COMMITTEE,
Thomas P. Foley, *Chairman.*

INACCURATE AND MISLEADING MATERNITY MORTALITY STATISTICS APPEAR WITH REGULARITY

Chicago, March 11, 1932.

To the Editor: The enclosed is sent you for publicity purposes in the hope of counteracting the erroneous impression that is broadcast in lay journals relative to American maternity statistics.

Dr. Morris Fishbein, Editor,
Journal, American Medical Association,
535 North Dearborn Street,
Chicago, Illinois.

Dear Dr. Fishbein:

By authorization of the Council of the Chicago Medical Society, I write to protest in the name of that organization against the various articles appearing in lay publications which are derogatory to the medical profession.

The latest contributor to this campaign is a sometime pathologist named deKruif who writes in the *Ladies Home Journal* on childbed fever, a subject which neither his training nor his experience entitles him to discuss.

Organized medicine has spent a wealth of time and money in devising ways and means to reduce the mortality from puerperal fever, and any honest contribution to the solution of the problem would be extremely welcome.

In Illinois, especially, a notable reduction in maternal and infant mortality has been secured and this record is the more impressive since it occurs in one of the few states which has not been pauperized by the acceptance of the Sheppard-Towner Dole with its matriarchal coddling and paternalistic presumption.

Whether the article in question resulted from a commercial necessity of the writer, from mercenary motives of the publisher, cunningly obscured, or whether it forms a part of the insidious and widespread propaganada for the Sheppard-Towner Law, is of no consequence. The evil effect upon the medical profession is the same. Neither does the uncertain intent of the article prevent it from being a source of injury rather than a help to the cause it professes to serve since it will render pregnant women unjustly afraid to enter the hospitals, wherein, alone they can find the greatest safety.

The medical profession protests further that it is impossible to have 23,000 cases of labor honestly observed without a case of child fever,

owing to the fact that many women are unclean and infect themselves, while some are infected through the blood, or otherwise, without guilt on the part of the attendants or instrumentation. These with personal differences in resistance and immunity, unsuspected tumors, slumbering foci in other parts of the body like teeth and gall bladder brings the average mortality up to about 1.5 per cent. for all cases. Every thoughtful and discriminative obstetrician knows this to be true. He also knows that reports like the one quoted cannot be honestly substantiated.

Childbed fever is *not* always a preventable disease as the author of the article so positively and ignorantly asserts. Pneumococci and streptococci are everywhere—even in superclean hospitals and in the mouth of every person, patient or not.

Furthermore, the statistics on which the statements are based are wholly valueless in Chicago where their unreliability is a matter of such common knowledge that the figures are never quoted by writers who are familiar with the conditions.

The whole significance of statistics, depends upon the methods used in assembling them. Any hospital, general or otherwise, could furnish records as clear of disaster as those quoted if the threatened patient could be quickly transferred to another hospital or even re-registered in another part of the same hospital before the emergency became acute. To use such irresponsible figures, without analysis, as a basis for disparagement of medical men is, if not malice, an extreme act of human fatuity.

The really informative portion of this article could have been secured by an hour's reading in any good history of medicine and if the author spent four years, as stated, in collecting his data, it is queer that he did not somewhere run across a reference to the work of Lister, Pasteur, and Koch, whose investigations gave the Semmelweis discovery a rational and intelligible foundation.

That such a topic should be selected for popular consumption is unfortunate from every standpoint but having been chosen it should not be published without meticulous editing by responsible and experienced specialists who were cognizant of the facts and had the background for a trustworthy presentation. The paper as issued is injurious primarily to our American women, unfair to all of our hospitals and especially unjust to the medical profession.

The Chicago Medical Society deplores the inaccuracies of the article and resents the disingenuous reflections of the writer, both open and surreptitious, upon the medical men of America.

Yours very truly,

Charles B. Reed,

Secretary Public Relations Committee.

A SLANDEROUSLY UNJUST ATTACK AGAINST EVERY REPUTABLE PHYSICIAN

Chicago, Illinois, February 28, 1932.

To the Editor: In the March number of "The Ladies Home Journal" there is an article on "Puerperal Sepsis" which deserves attention, correction and rebuke.

Any conscientious physician is anxious to lower the incidence of puerperal infection, but an article which places the entire blame upon the physician and which must terrify women about to have children is a poor attempt at reformation.

The article states that one out of every eighteen married women dying between the ages of fifteen and forty-four die from puerperal sepsis. That would surely indicate that about one out of every nine cases delivered dies from this cause. I think even our rate scarcely furnishes a percentage bearing a remote resemblance to these figures.

The article ends by denouncing all hospitals except purely maternity hospital, making a special reference to the Lying-In Hospital, Chicago, and Dr. DeLee. It seems to me it would be fitting for Dr. DeLee to write "The Ladies Home Journal" correcting some of the misstatements and inferences that appear in the article referred to.

Clara Ferguson, M. D.

CAUSE OF INFANTILE PARALYSIS

Dr. Montrose Burrows, in *Archives of Internal Medicine,* July, 1931, says that in all autopsied cases, hyperplasia of some or all the lymphatic structures takes place. He says that the disease, which is as widespread as measles, enters by the gastrointestinal lymphatics. Nearly all the population is susceptible, although few contract it to the paralytic stage. In an epidemic in an apartment house which he reported in 1916, every child who came in contact with a

case of paralysis had some form of illness, though in many cases it amounted merely to a mild gastrointestinal disturbance. Paralysis was a rare occurrence, a complication rather than a primary accompaniment of the disease. It was comparable to the nephritis which may complicate scarlet fever.

He proposes to change the name of the disease, according to his necropsy findings, to acute lymphatic hyperplasia.

MY WIFE AND I RAISED TEN CHILDREN WITHOUT THE INTERVENTION OF ANY STATE OR FEDERAL AGENCY

CONGRESS OF THE UNITED STATES, HOUSE OF REPRESENTATIVES, WASHINGTON, D. C.

February 15, 1932.

Dr. E. E. Richardson, Secretary,
Coles-Cumberland County Medical Society,
Mattoon, Illinois.

Dear Dr. Richardson:

I have your letter and note its contents. My wife and I raised ten children without the intervention of any state or federal agency and, of course, we are rather proud of our accomplishments. Last session of Congress I sent to our Health Department at Springfield and secured a complete and detailed report of the health activities in the State of Illinois, and among other things I learn that while Illinois has never participated in the Sheppard-Towner appropriation yet our death rate among children in Illinois was lower than most of the other states. It amazes me to see legislative organizations shelling us here for a million dollars appropriation especially at this time when there is such a great demand for curtailing the expenses of the government and the further fact that Illinois has never participated in it and yet has a very large per cent. of the federal bill to pay. Of course, will be very glad to keep your suggestions in mind when the matter comes up for consideration.

Thanking you for the information contained in your letter, I remain,

Sincerely yours,
CHARLES ADKINS,
Member of Congress, 19th Dist. Illinois.

REPORT OF EDUCATIONAL COMMITTEE

March, 1932

SPEAKERS BUREAU:

39—Physicians were scheduled to present popular health talks before meetings of
- Parent Teacher Associations
- Women's Auxiliaries
- Y. M. C. A.
- High School Assemblies
- Child Study Clubs
- Women's Clubs
- State Teachers Association
- Church Clubs
- College Faculty
- County Teachers Institute
- Kiwanis Clubs
- Rotary Club
- Study Club of Colored Women

The following comments have been received concerning these talks:

"We found the doctor's talk very educational and appreciated it greatly."

"Speaker was very good. We all enjoyed him."

"The doctor presented his subject in a very helpful and interesting way. Ladies greatly interested."

"Was very interesting and enjoyed very much."

"The general opinion of those present was that the talk was one of the most interesting and educational they had heard. Very good."

"His presentation was enlightening and helpful."

"Health talk enjoyed very much. Teachers say Dr. R. gave the best talk we have had. Very well pleased. Thank you."

"Very excellent presentation of an interesting and profitable talk."

PRESS SERVICE:

943—Press articles released during the month:
- 383—Regular press service
- 27—Monthly service
- 102—Notices re meeting La Salle County Medical Society
- 69—Releases re meeting Livingston County Medical Society
- 28—Releases re meeting Franklin County Medical Society
- 43—Notices of DeWitt County Medical Meeting
- 49—Notices of Madison County Medical Meeting
- 64—Newspapers, re meeting Iroquois County Medical Society
- 151—Newspapers, re meeting McLean County Medical Society
- 25—Community newspapers, re meetings Chicago Medical Society
- 2—Chicago Association of Commerce re meetings Chicago Medical Society

4—Articles written:
- Impetigo Contagiosa
- Common Pimples and Blackheads

Value of Exercise
Rest

SPECIAL SERVICE TO COUNTY MEDICAL SOCIETIES:

367—Notices sent to physicians about La Salle County Meeting
123—Notice sent to physicians about Livingston County Meeting
140—Notices sent to physicians about Franklin County Meeting
104—Letters sent to High School principals about Health Week
205—Letters sent to county medical officers about Ladies' Home Journal

SCIENTIFIC SERVICE COMMITTEE:

18—Speakers scheduled to present scientific programs for county medical societies:
F. E. Senear, Will-Grundy County, "Present Status of Anti-Luetic Treatment"
L. D. Snorf, Aurora Medical Society, "The Complications of Peptic Ulcer"
W. L. Bowen, Perry County Medical Society, "Surgical Problems in Diseases of the Thyroid"
H. I. Stevens, Perry County Medical Society, "Fluid Balance and Blood Transfusions"
C. F. Geschickter, Johns Hopkins Hospital, Paris Hospital, Paris, Illinois, "Newer Aspects of the Cancer Problem"
Clement L. Martin, Rock Island County
Garwood C. Richardson, Will-Grundy County
E. Z. Levitin, Will-Grundy County, "Neurology"
P. K. Brown, St. Louis, La Salle County, "Treatment of Puerperal Infection"
I. Y. Olch, St. Louis-La Salle County, "Hyper-Parathyroidism and Hyper-Insulinism and Their Importance in Surgery"
E. F. Cox, La Salle County, "An Unusual Case of Vesticle Calculus"
Clifford Grulee—Will-Grundy County, "Pneumonia in Infants and Children"
Duff S. Allen, St. Louis-Franklin County, "Pulmonary Tuberculosis from the Surgical Point of View"
Alfred Goldman, St. Louis-Franklin County, "Pulmonary Tuberculosis, Medical Phases of the Question"
Frank Phifer, Will-Grundy County, "Some Phases of the Prostatic Problem"
Don Deal, Fulton County, "Choice of Anesthesia"
H. H. Cole, Fulton County, "Empyema and Lung Abscess"
J. D. Williams, Iroquois County, "Early and Late Treatment of Deep Burns"

RADIO:

45—Radio talks given over WGN and WJJD:
The manager of radio station WJJD received the following letter from one of the regular listeners over this station:
"Of the many very valuable and interesting programs that are broadcast from your station, there is one feature that is exceptionally fine and one that I personally enjoy and find very helpful. That feature is the talk that comes every Monday, Wednesday and Friday at 11:45 o'clock and is given by some doctor. No doubt thousands of other radio fans think the same as I do, but do not take the time to tell you so in a letter."
These health talks are given by members of the Illinois State Medical Society and are scheduled and approved by the Educational Committee.

MISCELLANEOUS:

1,175—Clippings relating to physicians and medical problems were received and filed.
18—Folders of health material were compiled and sent out to physicians.

Respectfully submitted,
JEAN MCARTHUR, Secretary.

REDUCED R. R. RATES FOR A. M. A. MEETING

THE NEW ORLEANS SESSION

RAILROAD TRANSPORTATION TO NEW ORLEANS

Up to this time, information has been received that the Southeastern Passenger Association and the Central Passenger Association have granted a rate of one and one-half fares for the benefit of the members of the Association who will attend the annual session, to be held in New Orleans, May 9 to 13.

In order to secure the reduced rate it will be necessary for members to have a Certificate, to be endorsed by the Secretary of the Association and validated by a representative of the railroads at the Registration Bureau. These Certificates must be secured from railroad ticket agents at the time tickets to New Orleans are purchased. The Certificates, when properly certified by the Secretary of the Association and validated by the agent of the railroads, will entitle the holders to purchase return tickets, over the same route traveled to New Orleans, at one-half the regular fare. The reduced rate cannot be secured without a properly certified and validated Certificate.

REDUCED RAILROAD RATES FOR ANNUAL MEETING

The Western and Central Passenger Associations have granted a reduced rate of a Fare and One-Third to members, and dependents of the family attending the Annual Meeting to be held in Springfield on May 17 to 19, 1932, provided 100 certificates are presented at the meeting for validation.

The following directions are submitted:

1. Tickets at the normal one way rate may be bought between May 13 and May 19, inclusive.

2. When purchasing your going ticket be sure to ask the ticket agent for a convention certificate, or a receipt for the fare paid, if the agent does not have convention certificates available. Be sure that the cer-

tificate or receipt is properly stamped with the same date as appears on your ticket.

3. When registering at the meeting in Springfield, be sure that your certificate, or receipt, is deposited for validation.

4. When 100 certificates or receipts for purchase of tickets are deposited, they will be validated by the Secretary of the State Society as endorsing officer, and by a representative of the Passenger Associations.

5. When the required number of certificates are validated, the owner will be entitled to a reduced return rate of one-third of the normal one rate, back to the place from which the going ticket was purchased.

This special fare has been granted at the request of the Illinois State Medical Society, and all requirements must be met, as mentioned above, to get the reduced return rate.

Do not forget to ask for the Convention Certificate when buying your ticket to Springfield, at the normal rate, and do not forget to deposit it promptly, on arriving in Springfield.

MAKE A. M. A. MEETING HOTEL RESERVATIONS EARLY

New Orleans Hotels

Below may be found a list of New Orleans hotels and rates for rooms. On advertising page 41 of this issue of The Journal may be found this list together with an application form that may be used to secure reservations through the Subcommittee on Hotels of the Local Committee on Arrangements. The form that is printed in the advertising pages may be clipped and, when properly filled in, should be sent at once to Dr. Emmett L. Irwin, Chairman of the Subcommittee on Hotels, Box 1460, New Orleans, Louisiana. If those who expect to attend the annual session of the American Medical Association will send in their applications at the earliest possible time, there should be no difficulty encountered in securing satisfactory accommodations. Applicants for reservations are especially requested to include a second and a third choice in order that good accommodations may be assured if the desired reservation cannot be had at the hotel of preference.

Hotels at New Orleans

	Single	
Name and Address	Without Bath	Wtih Bath or Cnonecting Bath
Bienville ..... 214 Lee Circle	.....	$2.00-3.50
Chalmette ..... 808 Carondelet	.....	2.00–2.50
De Soto ..... 420 Baronne	$2.00	3.00–4.00
Jung ..... 1500 Canal	.....	3.00–3.50
Lafayette ..... 628 St. Charles	.....	2.00–2.50
La Salle .....1113 Canal	2.00–2.50	3.00
Marberc ..... 1300 Canal	.....	2.50–3.50
Monteleone ..... 214 Royal	2.00	3.00–4.00
Pontchartrain ..... 2031 St. Charles	.....	.....
Roosevelt ..... 123 Baronne	.....	4.00–6.00
St. Charles .....211 St. Charles	2.00–2.50	3.00–5.00

	Double		
	Without Bath	With Bath or Connecting Bath	Suites
Bienville ..... Le Circle	.....	$5.00–8.00	.....
Chalmette ..... 808 Carondelet	.....	3.00–4.00	.....
De Soto ..... 420 Baronne	$3.50	5.00	$8–18
Jung ..... 1500 Canal	.....	5.00–6.00	10 upward
Lafayette ..... 628 St. Charles	3.00	3.50–4.50	.....
La Salle.....1113 Canal	2.50–3.00	4.00	.....
Marberc ..... 1300 Canal	.....	4.00–7.00	.....
Monteleone .....214 Royal	3.00–4.00	5.00–6.00	10–12
Pontchartrain ..... 2031 St. Charles	.....	5.00–7.00	10–12
Roosevelt ..... 123 Baronne	.....	6.00–9.00	15–18
St. Charles .....211 St. Charles	3.50–4.00	5.00–8.00	12–15

ANNOUNCEMENT OF THE THOMAS W. SALMON MEMORIAL LECTURES

To Be Delivered By

Dr. Adolf Meyer

Professor of Psychiatry, Johns Hopkins University
Director of the Henry Phipps Psychiatric Clinic, Baltimore

AT THE NEW YORK ACADEMY OF MEDICINE

Friday Evenings, April 8, 15 *and* 22, 1932, *at* 8:30 *P. M.*

The first series of the Thomas W. Salmon Memorial Lectures will be given at the Academy of Medicine in New York City beginning April 8, it was announced today. The lecturer will be Dr. Adolf Meyer of Baltimore, who was chosen by the committee in charge of the lectures in recognition of his services to American psychiatry and his eminence as a scientist and teacher in this branch of medicine.

The Thomas W. Salmon Memorial Lectures were established in honor of the late Dr. Thomas W. Salmon, Professor of Psychiatry of Columbia University and the first Medical Director of the National Committee for Mental Hygiene. Dr. Salmon was a leader in mental medicine and did more in his day to advance the care and treatment of the mentally ill in this country than perhaps any other one professional man. His direction of the mental hygiene movement from the beginning was largely responsible for making it the social force it is today, influencing every field of human endeavor.

Shortly after his death his friends and associates formed the Thomas W. Salmon Memorial Committee, which raised an endowment fund of $100,000 as a permanent memorial in his honor for the advancement of psychiatry and mental hygiene, and each year an out-

standing worker in these or related fields will be selected to give the Salmon Lectures, which form the main activity of the memorial. The lectures will be given in various cities in different years under the auspices of accredited scientific, medical or educational organizations. The New York Academy of Medicine administers the fund and the lectures.

The Thomas W. Salmon Memorial Lectures are the first of their kind to be established in the history of American medicine and have been called "the Nobel Prize of American Psychiatry." It is the purpose of the lectureship to stimulate and encourage original research and study in mental hygiene and psychiatry and to honor in this way those who are making outstanding contributions to scientific advancement in these fields, in this country or abroad.

The first award went to Dr. Adolf Meyer, Professor of Psychiatry of Johns Hopkins University and Director of the Henry Phipps Psychiatric Clinic in Baltimore. Dr. Meyer is one of the world's outstanding psychiatrists and has distinguished himself as a leader in his field. He is regarded as the dean of psychiatry in this country, and has contributed widely and over a long period of years to the development of his specialty, as a clinician, research worker, writer and teacher. He is also one of the pioneers in mental hygiene and gave to the movement the name it bears, contributing significantly to its scientific development and advancement from the beginning.

Dr. Meyer will lecture on three successive Friday evenings, April 8, 15 and 22. All of the lectures will be given at the New York Academy of Medicine, 2 East 103rd Street, New York, N. Y., and will start at 8:30 P. M. sharp. Dr. Meyer's subject will be "Psychobiology." In his first lecture he will discuss the relations of mental and general medicine and will describe the position of psychobiology with reference to medicine and its associated sciences. The foundations will be laid for a clear understanding of psychobiology and the study of personality functions with regard to the various disciplines, and a comprehensive statement of the status and content of psychobiology will be presented. What does "personality function" mean in the thought and life of the psychiatrist?

The second lecture will present a concrete picture of some specific problems such as, for example, the schizophrenic reactions, with a statement of the essentials of Dr. Meyer's findings and the deductions to be drawn from his studies for a fundamental understanding of psychiatric diseases in general.

The third lecture will be devoted to an exposition of what is being done and what can be done in psychiatric therapy. The relationships of psychiatric therapy with the psychoanalytic and other therapeutic approaches will be defined, and a clear picture will be formulated as to present-day thought and practice in the field of psychiatry.

BIOGRAPHICAL NOTES ON DR. THOMAS W. SALMON

Born in Lansingburg, New York, January 6, 1876.

Graduated from Albany Medical College, 1899.

Private medical practice, 1899-1901.

Medical staff, Willard (N. Y.) State Hospital, 1901-1903.

Commanding Assistant Surgeon and Past Assistant Surgeon, U. S. Public Health Service, 1903-1915.

Chairman, New York State Board of Alienists, 1911.

Director of Special Studies, the National Committee for Mental Hygiene, 1912-1915; Medical Director, 1915-1921.

Senior Consultant in Neuro-psychiatry, A. E. F., 1917-1919. Brigadier General, Medical Reserve Corps, U. S. Army, Awarded D. S. M.

President, New York Psychiatrical Society, 1920-1921.

Professor of Psychiatry, Columbia University, 1921-1927.

Consulting Psychiatrist, Presbyterian Hospital, 1922-1927.

President, American Psychiatric Association, 1923-1924.

Died August 13, 1927.

BIOGRAPHICAL NOTES ON DR. ADOLF MEYER

Dr. Meyer is the Director of the Henry Phipps Psychiatric Clinic of Johns Hopkins Hospital which he planned and organized in 1913, and has been a leader in the development of his specialty in this country for many years. He received his early medical training in Switzerland, taking his degree at the University of Zurich, and after post-graduate study in various medical centers in Europe came to the United States in 1892. He served in the state hospitals of Illinois and Massachusetts, and taught psychiatry and neurology at the University of Chicago and at Clark University. Subsequently, he entered the New York State Hospital service and reorganized the State Psychiatric Institute, the research center of the state hospital system, serving as director of that institution until 1913. From 1904 to 1909 he was Professor of Psychiatry at Cornell University. He is a past President of the American Psychiatric Association and the American Neurological Association. His scientific contributions cover a wide range of subjects dealing with fundamental aspects of psychiatry, neurology, psychobiology, mental hygiene and related fields.

WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION

Tenth Annual Meeting, New Orleans, May 9-13, 1932

HEADQUARTERS: JERUSALEM TEMPLE, 1137 ST. CHARLES AVENUE

Preliminary Program, Monday, May 9, 1932

6:00 P. M. National Board Dinner and Pre-Convention Meeting (for Board Members, only), Orleans Club, 5005 St. Charles Avenue. Ticket, $1.50.

Tuesday, May 10, 1932

9:00 A. M. General Meeting, Jerusalem Temple. Mrs. Arthur B. McGlothlan, *presiding.*

12:30 P. M. Buffet Luncheon, Jerusalem Temple. Tickets, $1.00.

2:00 P. M. Walk through Vieux Carre, with Guides —Starting from the Patio Royale.

4:00 P. M. Tea, Patio Royale.

8:00 P. M. General Meeting of the American Medical Association, Auditorium.

10:00 P. M. Reception and Dance in Honor of the Woman's Auxiliary, Tip Top Inn, Roosevelt Hotel. Hosts: Orleans Parish Medical Society.

Wednesday, May 11, 1932

9:00 A. M. General Meeting, Jerusalem Temple. Mrs. Arthur B. McGlothlan, *presiding.*

12:30 P. M. *Auxiliary Luncheon, Southern Yacht Club. (12 Minutes from Canal Street or Jerusalem Temple. Luncheon tickets, $1.50; Transportation, 25 cents.)

2:30 P. M. Post-Convention Board Meeting, Southern Yacht Club.

2:30 P. M. *Through Garden Gates; Glimpses of New Orleans.

4:00 P. M. Teas in Private Residences.

NEW ORLEANS COUNTRY CLUB

8:30 P. M. Divertissements in the Garden.

10:00 P. M. Buffet Supper. Negro Spirituals, Courtesy of the Woman's Auxiliary to the Louisiana State Medical Society.

Thursday, May 12, 1932

9:00 A. M. General Meeting, Jerusalem Temple. Mrs. Walter Jackson Freeman, *presiding.*

10:00 to 10:50 and 11:00 to 11:50. Special Round Table Conferences, Jerusalem Temple.

12:00 M. Buffet Luncheon, Jerusalem Temple. Tickets, $1.00.

1:00 P. M. *Trip to Oak Alley Plantation; visiting Spillway. Returning at 6 P. M. (Round trip, $2 per person.)

Or

2:00 P. M. *Round trip over Lake Pontchartrain, via New Bridges. ($2 per person.)

Or

2:30 P. M. *Trip to Versailles Plantation, Battle Field of New Orleans; Docks and Wharves. (Round trip $1 per person.)

Or

2:30 P. M. *Delgado Museum and City Park; Newcomb Art School and Audubon Park. (Round trip $1 per person.)

Or

2:30 P. M. *Mayan Exhibit, Tulane University. (Round trip 25 cents per person.)

9:00 P. M. President's Reception and Ball, Auditorium.

Friday, May 13, 1932

9:00 A. M. *Trip to Gulf Coast—leaving L. & N. Station at 9 A. M., returning to New Orleans at 6 P. M. (Round trip, including luncheon and beautiful scenic drive along the coast, $6.00 per person.)

10:00 A. M. Golf Tournament, Metairie Golf Club.

*Transportation paid by individual. All trips start from Jerusalem Temple.

FIRST BATHTUB INSTALLED IN AMERICA IN 1842

Although the ancient Romans and Greeks were well aware of the value of bathing not only for cleanliness, but for health as well, it is a peculiar fact that following the fall of the Roman empire down until 1842 bathtubs and regular bathing were shrouded in a whole galaxy of bugaboos, and it was a brave, nay, foolhardy, person who "flew in the face of providence" and took a bath!

In 1842 Adam Thompson installed the first bathtub in America. It was made of mahogany, lined with lead, and weighed a ton. And what a storm arose! Physicians condemned it as dangerous to health. Preachers stormed against it from the pulpit, claiming that bathing would tend to make mankind extravagant and that they would lose their morality.

The legislators, swayed by public opinion, joined in the war and placed an exorbitant tax on bathtubs as their bit in putting down the practice.

But nothing happened to Thompson and the custom spread rapidly until by 1860 every really first-class hotel had its two or three public baths. Since that time there has been a rapid development in the manufacture of bathtubs and bathing facilities, until today the range of styles in bathtubs has reached an almost unlimited choice of styles.

With this development in bathtub construction has come that of shower bath development. Recognized as a most healthful, as well as most enjoyable, method of cleansing the body, the development of the shower bath has been retarded by the problem of leakage and the high cost of installation.

AMERICAN COLLEGE OF PHYSICIANS AWARDS PRIZE TO DR. O. T. AVERY

The American College of Physicians recently selected Dr. O. T. Avery of the Hospital of the Rockefeller Institute of New York City as the recipient of the John Phillips Memorial Prize for 1932.

This prize, an annual award by the College in the sum of $1,500, is given to perpetuate in the College the memory of Dr. John Phillips of Cleveland, a man of outstanding accomplishments as investigator, teacher and physician, for many years a member of the Board of Regents of the American College of Physicians, who gave his life in saving others on the occasion of the Cleveland Clinic disaster on May 15, 1929.

The Sixteenth Annual Clinical Session of the College will be held in San Francisco during the week of April 4, 1932. Dr. Avery will deliver an address, "The Role of Specific Carbohydrates in Pneumococcus Infection and Immunity."

The distinction of this award is enhanced by the fact that although it was available the previous year, it was not possible to decide on a suitable recipient. This is, therefore, the first award made.

Said the farmer to the druggist: "Now be sure an' write plain on them bottles which is for the Jersey cow and which is for my wife. I don't want nothing to happen to that Jersey cow."

POINTS OF INTEREST IN SPRINGFIELD



Illinois State Capitol



Lincoln Monument in Oak Ridge Cemetery



Lincoln Homestead, Springfield



Illinois Centennial Building



Abraham Lincoln Hotel (Headquarters Hotel)



St. Nicholas Hotel



Leland Hotel



Elks Club (Opening Meeting)



VIEWS IN OLD SALEM STATE PARK

Rutledge Inn (at top); the Custodian's Residence and Museum; restored Lincoln and Berry Store; view of Sangamon River from New Salem Hill.



Knights of Columbus Building (General Sessions Here)



The O'Connor Lincoln Statue

BOY OR GIRL

Some folks pray for a boy, and some
For a golden-haired little girl to come.
Some claim to think there is more of joy
Wrapped up in the smile of a little boy,
While others pretend that the silky curls
And plump, pink cheeks of the little girls
Bring more of bliss to the old home place
Than a small boy's queer little freckled face.

Now which is better, I couldn't say
If the Lord should ask me to choose today;
If He should put in a call for me
And say: "Now what shall your order me,
A boy or girl? I have both in store—
Which of the two are you waiting for?"
I'd say with one of my broadest grins:
"Send either one, if it can't be twins."

I've heard it said, to some people's shame,
They cried with grief when a small boy came.
For they wanted a girl. And some folks I know
Who wanted a boy, just took on so
When a girl was sent. But it seems to me
That mothers and fathers should happy be
To think, when the Stork has come and gone
That the Lord would trust them with either one.

Boy or girl? There can be no choice;
There's something lovely in either voice.
And all that I ask of the Lord to do
Is to see that the mother comes safely through
And guard the baby and have it well,
With a perfect form and a healthy yell,
And a pair of eyes and a shock of hair.
Then, boy or girl—and its dad won't care.

—Edgar A. Guest.

Original Articles

THE IMPORTANCE OF QUANTITATIVE DIETS IN DIABETES AND OBESITY*

WALTER H. NADLER, M. D.
CHICAGO

The question of diet is of such great general interest that inevitably facts are often disregarded and fancies exploited.[1] In our reaction to prevalent fads there is a tendency to lose sight of principles of established value. Quantitative diets, recognized as the corner stone of diabetic treatment, do not receive the wide use they deserve. This can scarcely be due to fear comparable to that which seems responsible for the astonishing neglect of insulin.[2] Failure to prescribe weighed diets when their use is indicated[3] appears to be due to lack of familiarity on the part of the clinician with the principles involved and even more to lack of practice in actually planning diets. The latter function has, it is true, been relegated to the dietitian with the result that if a dietitian is lacking the patient often fails to receive adequate instruction. For these reasons it is ventured to discuss a trite and elementary subject.

In requiring patients to live for a long time on a diet which differs radically from that to which he has been accustomed it is desirable to approach as nearly as possible what is believed to be a "normal" diet. In health, under average conditions, one probably achieves instinctively what may be termed a rational diet. For a young adult of average activity this contains 2,500 to 3,000 calories obtained from 80 to 100 grams of protein, from about 400 grams of carbohydrate and from 80 to 100 grams of fat. A diet balanced in this manner contains an adequate supply of vitamines and minerals derived principally from vegetables, fruits, milk and cereals which furnish also most of the carbohydrate used.

Quantitative diets have been given with benefit in nephrosis, nephritis and epilepsy as well as in obesity and diabetes to which the present discussion is confined. Obesity, often the forerunner of diabetes, constitutes a real menace to the individual after middle age, as has been shown by insurance statistics. Failure to lose weight and to maintain a level desirable for the individual is usually an indication for the use of a quantitative diet. The patient is requested to record his food intake and to estimate the approximate amounts of the various portions. He is soon able to bring a list from which the food constituents and the caloric intake can be determined. It is but a step further to introduce food scales and to require him to adhere to a diet that is balanced and adapted to his needs. The results obtained justify this procedure. As regards diabetes it scarcely seems necessary to define the indications for the use of a weighed diet since this is desirable if not imperative in nearly all except very mild cases.

The calculations required for the prescription of quantitative diets are simple. One must weigh the patient and by reference to a table of standard weights determine the average normal or optimal weight for his age and height. These weights are translated from pounds to kilograms by dividing the former by 2.2. The probable caloric requirements of the patient, to be supplied by a trial maintenance diet, may be learned from prediction tables such as those of Benedict and Harris, or, more simply, may be estimated by supplying 25 to 30 calories per kilogram of optimal weight. In order to total the calories from the number of grams of carbohydrate, protein and fat prescribed it is necessary to know that each gram of carbohydrate furnishes 4 calories, each gram of protein 4 calories, and each gram of fat 9 calories. One should be able to calculate the total amount of fatty acids that can be derived from the diet prescribed and, under certain conditions, cause ketosis; 46 per cent. of the protein and 90 per cent. of the fat are sources of fatty acids. As anti-ketogenic forces, the glucose available from all sources may be calculated by adding the grams of carbohydrate prescribed, 58 per cent. of the protein and 10 per cent. of the fat. The ratio of fatty acids to glucose is usually not prescribed in excess of 1.5 to 1. In order not to exceed this ratio Woodyatt's formula limits the prescription of fat to two times the grams of carbohydrate plus one-half the number of grams of protein prescribed.[4]

The actual prescription of a diabetic diet is

*Presented before the Section on Medicine, Illinois State Medical Society, May 6, 1931, at East St. Louis, Ill.

generally well understood. The principles to be followed are described in most texts. Various formulae have been offered as short-cuts. That the diet should ordinarily supply the patient's caloric requirements and that the protein allowance should not greatly exceed the body needs is generally agreed; variations in treatment are concerned chiefly with the proportional amounts of carbohydrate and fat allowed. The following simple and conservative procedure is frequently followed:

As a starting point in the average case uncomplicated by ketosis a trial maintenance diet is prescribed. Whether it proves to be a maintenance diet adaptable to the individual is determined by further observation; if not, subsequent adjustments are in order. Based on the patient's optimal weight in kilograms, protein is prescribed in the amount of 1 gram per kilogram, carbohydrate in the same amount, and fat in two and a half times this amount, (P 1, Ch 1, F 2½). If the urine does not become sugar-free on such a diet, insulin is started in small dosage and increased as required. As later adjustments are made one may attempt to approach a distribution of P 1¼, C 1½, F 2, recommended by Joslin as more nearly approaching a normal diet and possibly avoiding certain disadvantages of a relatively high fat intake.

The conversion of the daily food allowance as expressed in grams of protein, carbohydrate and fat into food portions and their division into meals seems to be the chief obstacle to the more widespread use of quantitative diets. This relatively simple procedure has until recently been taught in few medical schools; even in hospitals it is usually left entirely to the dietitian with the result that many clinicians have had little opportunity of calculating diets. Experience in teaching medical students has proved that this information is easily acquired by actual practice. All that is required is a table of food values, a food scale (marked in grams) and practice. Analyses of most of the food stuffs used in this country can be obtained by writing to the Bureau of Records, Department of Agriculture, Washington, D. C., for Bulletin No. 28, by Atwater and Bryant, and inclosing ten cents in coin. The simpler tables of food values prepared by Joslin and found in his invaluable Diabetic Manual[5] serve admirably; in particular, one should memorize or have at hand a list similar to Joslin's table of caloric values for common foods, as a basis for rapid calculation.

In the elective course in Nutrition offered by Dr. Esther Nelson as well as in the Diabetes Clinic of Northwestern University, medical students are supplied with gram food scales and are required to calculate the carbohydrate, protein and fat constituents of their ordinary dietaries as well as to total the calories obtained and the fatty acid-glucose ratios present over a period of days or weeks. With this experience as a foundation they are required to prescribe and to plan diets for hypothetical and finally for individual patients. These students attain a surprising proficiency in a very short time. A similar, brief, self-taught course of training is recommended to clinicians who feel any uncertainty in the use of quantitative diets.

REFERENCES

1. Stone, W. J.: Dietary Facts, Fads and Fancies. Jour. A. M. A., 95, Sept. 6, 1930, 709.

2. Foster, N. B.: Insulin: Its Use and Misuse; and Foods and Diets in Diabetes. Jour. A. M. A., 94, June 21, 1930, 1971 and 1974.

3. Gray, H., and Stewart, J. M.: Quantitative Diets versus Guesswork in the Treatment of Obesity and Diabetes. Scientific Monthly, Jan., 1931, p. 46.

4. Woodyatt, R. T.: Objects and Methods of Diet Adjustment in Diabetes. Arch. Int. Med., 1921, 28, 125.

5. Joslin, E. P.: A Diabetic Manual. Lea & Febiger, 4th Edition, 1929.

DISCUSSION

Dr. L. Feldman (Chicago): Did Dr. Nadler's patients ever develop anginal pain following the injection of insulin? In the recent months many reports have appeared in the literature describing attacks of angina in diabetic patients following the administration of insulin. Moreover, no hypoglycemia was found in these patients during the attack.

Should we interpret this as meaning that these diabetic hearts need a higher blood sugar to compensate for the sclerosis of their coronary arteries which is so frequently present?

Dr. W. H. Nadler (Chicago): It is well known that the fasting blood sugar is apt to be higher than the usual normal level in elderly individuals with chronic nephritis. Most of these patients are not actually diabetic, as can be determined by glucose tolerance tests or merely by observation. In diabetic patients who are arteriosclerotic and undernourished it is possible but practically difficult and undesirable to maintain normal blood sugar levels because the insulin dosage necessary to accomplish this results in frequent hypoglycemic reaction. In angina pectoris associated with diabetes, proper diabetic management is obviously important; it is a clinical fact that anginal attacks tend to become less frequent when the patient remains aglycosuric. On the other hand, hypoglycemia has been shown to increase the work of the heart.

THE DIAGNOSIS AND TREATMENT OF PRECANCEROUS LESIONS OF THE BREAST

MAX CUTLER, M. D.,
Director of Tumor Clinic, Michael Reese Hospital
and
Consultant to Cancer Service, Hines Veterans Hospital
CHICAGO

Education of the laity in the early signs and symptoms of cancer has had a significant effect upon the clinical picture of cancer as it is now encountered by the medical profession. This change has been especially evident as regards tumors of the breast. It is the purpose of this communication to present the various diagnostic and therapeutic problems occasioned by this changing clinical picture and point out what clinical and pathological experience dictate to be sound policy in the treatment of borderline neoplasms of the mammary gland.

Chronic Mastitis: At birth, puberty, menstruation, pregnancy and at the menopause the breasts undergo important anatomical and physiological changes in response to circulating hormones whose specific effects and interrelation, although still obscure, are slowly being unravelled.

At the onset of every menstrual period the breasts swell and sometimes become painful and tender. In many women these physiological changes pass unnoticed, in others, pain and tenderness are more marked and frequently give rise to considerable mental anxiety and physical distress.

In view of this recurrent cyclic, physiological activity of the mammary glands, it is not surprising that the wide dissemination of information on cancer among the laity should focus the attention of women particularly upon their breasts. Many women of special mental susceptibility, who heretofore have been totally unaware of these physiological states now consult their physicians for pain and "lumps" in the breasts. These circumstances have forced upon the physician the necessity of studying more minutely than ever before the physiology of the mammary glands as well as the pathological states of these organs.

The terms "chronic mastitis" and "chronic cystic mastitis" as they are commonly employed in the literature include under their descriptions states of the breast which are more physiological than pathological and also states that are distinctly pathological (cysts and papillomata). These states differ from each other in their etiology, prognosis and treatment. It is therefore of basic importance to separate them. That condition which appears more physiological than pathological has been isolated and described under the term *mazoplasia.*

Mazoplasia is that condition in which there is a desquamation of epithelial cells in the terminal ducts and their acini accompanied by a hyperplasia of the pericanalicular and periacinous connective tissue. The shed epithelial cells accumulate in and distend the ducts and acini giving rise to diffuse pain and generalized nodularity.

This condition of mazoplasia routinely referred to as "chronic mastitis" is most active in women between the ages of thirty and forty although severe examples may occur in younger women. It completely disappears at the menopause. The outstanding symptom is diffuse aching pain over the whole area of one or both breasts, generally more marked on one side than the other. The pain is often worse at menstruation. The advent of pregnancy may stop all symptoms.

Mazoplasia ("chronic mastitis") may exist alone in a breast for years or it may exist in association with cysts, papilloma and carcinoma. Because it is so universal in its presence, the association of these conditions is interpreted as being coexistent rather than causative.

The treatment of this obstinate complaint presents a difficult problem. The chief reason for the difficulty is that the condition is a local expression of a systemic dyscrasia.

Local treatment has little beneficial effect. Diathermy and x-ray therapy may effect temporary improvement but in general these agents have proved of little value. Women suffering from painful breasts caused by this condition commonly show evidence of ovarian hypofunction. The menstrual periods are frequently of short duration and the flow is usually scanty. Administration of ovarian residue has resulted in the relief of pain in many cases of this type.

Cystic Disease of the Breasts. The clinical detection of a palpable cyst in the breast can be regarded as evidence that many small cysts are in the process of formation in its neighborhood. When a large cyst is situated deeply in the breast

its cystic state may be difficult to determine especially if the breast is fat. If the cyst contains clear fluid, it will transilluminate clear. When a superimposed inflammation causes adherence of the skin overlying a deep seated cyst, the clinical picture cannot be distinguished from carcinoma. In these examples transillumination is of considerable help in establishing the diagnosis.

A localized collection of small cysts occurring

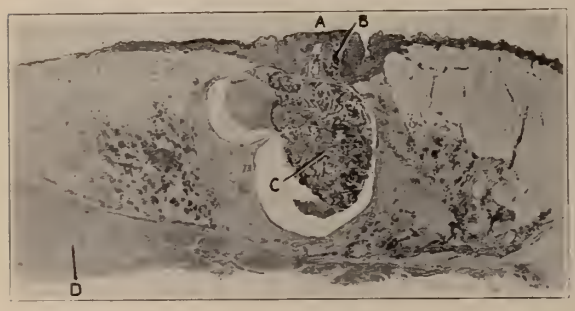


Fig. 1. Microscopical section of a whole breast. C is a papilloma in a cyst. At B part of the papilloma is seen as a continuation of the duct near the surface of the nipple. A. Nipple. D. Pectoralis major.

in a duct and its branches gives rise to a localized nodularity. When the cystic state remains uncomplicated by papilloma and carcinoma, there is a tendency for one cyst to outgrow the others. A single cyst thus becomes palpable and dominates the clinical picture. An apparently single cyst rarely contains carcinoma. When papilloma and carcinoma complicate the purely cystic state, there is not the same tendency for the development of a large cyst and the clinical condition remains one of local nodularity. Thus local nodularity is a clinical sign of great importance because it usually signifies that the pathological process has extended beyond the purely cystic stage and that the condition is either localized Schimmelbusch disease or actually early carcinoma.

Having determined by transillumination that the tumor is a cyst containing clear fluid the line of procedure is clarified. The safest method to adopt is to perform a wide excision of that portion of the breast containing the cyst. A wide excision is advised on the basis that this procedure is more likely curative than a narrow removal. After removal the wall of the cyst should be carefully inspected and any suspicious part examined by means of the frozen section.

When the cystic state is generalized, it is wiser to remove the whole gland rather than adopt local measures which necessitate repeated operations upon cysts as they become newly formed.

Papilloma of the Breast ("Bleeding Nipple"). The chief clinical sign of papilloma of the breast is a hemorrhagic or sero-hemorrhagic discharge from the nipple. A most marked difference of opinion exists in the literature concerning the prognosis and treatment of this clinical sign.

When breasts are examined by means of whole serial microscopical sections, it is found that papillomata are often discovered when their presence is least suspected. This method also reveals that they are more commonly multiple than is generally supposed. To infer that only one papilloma exists in a breast that has been only partly examined is a totally unwarranted assumption. Papillomata are commonly unilateral but both breasts may be affected.

The average age of patients who come under clinical observation for papilloma of the breast is approximately forty years. A single papilloma



Fig. 2. Whole microscopical section of a breast showing multiple papillomata in one duct. Pain and intermittent spontaneous discharge from the nipple were the only symptoms. A tumor could not be felt.

is either painless or gives rise to a feeling of discomfort. In multiple papillomata pain is a more common and prominent symptom and is probably due to the distension of one or more duct units by the neoplastic process.

A hemorrhagic discharge from the nipple is most commonly due to one or more benign duct papillomata. More rarely this sign is due to a beginning carcinoma. I have seen several examples of the latter condition in which early microscopic duct carcinomata were demonstrated but which gave no palpable evidence of their presence.

Palpation may reveal the presence of a tumor. When the tumor can be felt it is usually situated in the ampullary region and is firm, elastic and movable. It lacks the firmness of carcinoma and in the absence of inflammation the skin is freely movable over it.

Palpation of the breast may fail to detect the presence of a tumor and a hemorrhagic discharge from the nipple may exist without palpable evidence of disease. Since women are consulting their physicians for abnormal signs promptly after their discovery, examples in which a bloody discharge from the nipple is unaccompanied by a palpable tumor in the breast are constantly increasing and the management of this group of cases presents a definite problem.

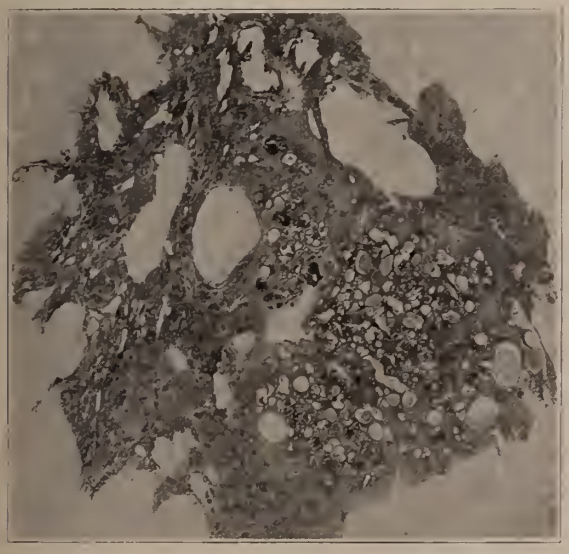


Fig. 3. Whole section of a breast showing multiple cysts and papillomata. All stages of Schimmelbusch disease are present. There is no definite carcinoma in this section.

In 1929 the writer demonstrated that transillumination reveals the presence, position and multiplicity of papillomata of the breast. Minute papillomata do not cast shadows. In searching for very small lesions it is important to reduce the intensity of the light to a minimum. The test should always be made in a room that is absolutely dark. Under these circumstances it is often possible to detect a faint linear shadow in the region of the ampulla which represents a duct containing one or more papillomatous growths.

After localizing the lesion by transillumination the skin overlying the shadow should be marked with indelible ink or silver nitrate while the patient is in a lying position. These preliminary studies greatly facilitate the surgical procedure and insure more certain removal of the diseased parts when a local excision is contemplated.

When a hemorrhagic discharge from the nipple is accompanied by a large tumor occupying a main portion of the breast, especially of its central parts, local mastectomy is the correct treatment. When the tumor is small and its nature is in great doubt, wide local exploratory operation followed by microscopical examination of a frozen section is indicated. This conservative procedure may prove to be adequate especially if transillumination reveals a single shadow in one breast. When transillumination reveals multiple shadows a local mastectomy is the method of choice. Subsequent examination of the breast by means of whole serial sections is made to determine the necessity for further surgical or radiotherapeutic measures.

Schimmelbusch's Disease. The disease of the breast which Schimmelbusch described and which now bears his name presents the following pathological characteristics: Multiple cysts upon which the papillomatous process has supervened in which the epithelial neoplasia, although atypical, is still confined within the normal boundaries of ducts and acini. Cysts and papillomata therefore constitute the essential pathological features of the disease. The clinical signs are not distinctive. Localized nodularity is the outstanding sign; a hemorrhagic discharge from the nipple may be present. The so-called "shotty breast" is described as clinically characteristic although uncomplicated cystic disease may present a similar clinical picture. A differential diagnosis between cystic disease, Schimmelbusch's disease, and early carcinoma is actually very difficult and often impossible clinically.

About 20% of all carcinomata of the breast can be definitely stated to begin within the lesions of the cystic state. Beginning as an epithelial hyperplasia the process may end in the cystic state. If the process continues papillomata form within the cysts and Schimmelbusch's disease is the result. The process may stop at this stage, but if it continues carcinoma is the inevitable consequence. The proportion of cases in which cystic disease and Schimmelbusch's disease end in carcinoma is impossible to estimate. We do know that fully 20% of all carci-

nomata show evidence of having passed through these various stages.

These facts render Schimmelbusch's disease a lesion of serious menace to the patient. The clinical sign most commonly associated with Schimmelbusch's disease is a localized nodularity. This sign is always an indication for an exploratory operation. A wide excision of the segment of the breast harboring a localized nodularity should be followed by immediate examination of the suspected area by means of frozen sections and paraffin sections. If examination of the frozen sections reveals carcinoma, the radical operation should be performed at once unless there are contraindications to this procedure. When examination of the frozen sections show all stages of Schimmelbusch's disease but no signs of carcinoma, the presence of malignant disease cannot be ruled out until whole paraffin sections of the excised specimen have been carefully examined. Any further operative or radiotherapeutic procedure should then await the results of the latter examination.

The doctrine that Schimmelbusch's disease is an innocent condition is both dangerous and unsound. The conclusion is based upon statistical evidence that is fallacious. Numerous examples in which local excisions in Schimmelbusch's disease have been followed by the development of carcinoma in the breast confirm pathological and experimental evidence of the potential danger of this state in the breast.

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SURGERY VERSUS RADIATION IN BENIGN UTERINE HEMORRHAGE*

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A study of the recent literature of this subject discloses the fact that there is still wide variation of practice in the treatment of the above condition. This divergence of practice in the hands of various members of the profession is due to the greater difference of opinion as to the indications and contra-indications for each of these methods of treatment. We do not recall ever having made a critical review of any well established subject in medicine in which there were so many divergent views on the various phases of the problem. Not only is there this disagreement as to when surgery and when radiation should be employed but there is almost as great lack of unanimity as to when x-ray or radium is to be used and as to the exact dosage in each individual case.

This paper will not enter into this latter controversy, but will confine itself to a critical study of the advantages and disadvantages of surgery and radiation. It will try to state impartially the advantages and disadvantages of each method of treatment and the contra-indications of each. We will first state our own observations and conclusions and then the opinons of those authors whose writings we have reviewed.

Advantages of Surgery. Our own experience leads us to conclude that with surgery there is 1. less chance of error in diagnosis; 2. that recovery is more certain; 3. that recovery is more prompt; 4. that it is less mutilating; 5. that the expense is less; 6. and finally that patients complain less of post operation discomfort than of post radiation discomfort.

1. With the statement that there is less dan-

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ger of error in diagnosis practically all the authors studied agree. Frank[1] insists that x-ray is only justified when there is an absolute diagnosis. He states that in 419 unselected cases he found 140 (35%) complicated cases. Of the 140 complicated cases, 74 (or 18.5% of the total) presented conditions contra-indicating x-ray and many of these were not and could not be diagnosed before operation. 2. All the authors studied agree that the percentage of cures is greater with surgery than with radiation. 3. Of those authors who expressed an opinion as to which method of treatment resulted in more prompt recovery, there were two times as many in favor of surgery as there were in favor of radiation and this is the more significant because in recent years more articles on this subject have been written by radiologists than by surgeons and gynecologists. 4. That surgery is on the whole less mutilating than radiation was supported by seven to one. Nearly all who expressed an opinion at all stressed the fact that while surgery limited itself to the diseased tissues the effects of radiation could not be thus definitely confined. Lynch[10] says in substance: Surgery affords an opportunity for elasticity in treatment and permits of conservatism. It gives a chance of saving the ovaries. 5. As to the relative expense of the two methods opinion was equally divided. 6. Only in the last phase of the problem did the majority of authors differ with our own conclusions. Half expressed it as their opinion that post radiation sickness was less severe than post operation discomfort. The other half thought they were about equal.

Advantages of Radiation. The advantages for radiation in certain selected cases are 1. lower immediate mortality; and 2. fewer cases of thrombi and emboli, though the most severe case of iliac thrombus which we have ever encountered occurred in a case which had been treated with radium.

Disadvantages of Surgery. The disadvantages of surgery are 1. higher mortality; 2. more frequent occurrence of thrombi and emboli, 3. post operation adhesions, 4. post operation infections, 5. an occasional keloid in the scar following laparotomy, 6. an occasional ventral hernia. However, the last four complications rarely happen in uncomplicated cases which would be suitable for radiation and the post operation mortality in uncomplicated cases in competent hands should not exceed one per cent. Heaney[4] reports that in 300 uncomplicated fibroids he had only one operation death. Wood[5] reports a mortality rate of 1.5% or 15 in 1,000 cases of fibromyoma operated on at St. Luke's Hospital, New York.

The statement by Mathews[8] "hysterectomy has a mortality of from 3% to 5% in the best hands while radium has none" may be true when all cases of hysterectomy are tabulated, but not true when only those cases are counted that could have been treated successfully with radium and hence is not a fair comparison. Thus Polak[9] states that about 54% of fibroids are complicated by some form of tubo-ovarian disease and these are naturally the cases with a high operative mortality.

Disadvantages of Radiation. The disadvantages of radiation may be listed under the following heading: 1. diagnosis less certain, 2. greater percentage of ultimate failures, 3. recovery is slower, 4. more mutilating, 5. the expense is greater, 6. post radiation discomfort greater and more protracted than post operative discomfort, 7. complications more numerous and more frequent, 8. sterilization more frequent and less controllable, 9. and finally radiation has many more contra-indications and hence is not applicable in nearly so large a percent. of the total number of cases. The first six disadvantages here given have already been discussed under surgical advantages. The complications listed by the various authors and observed by ourselves as occurring after radiation are (a) pyometra, (b) hematometra, (c) mass necrosis, (d) extensive intra-abdominal adhesions, (e) x-ray burns, (f) high blood pressure, (h) vesico-vaginal fistula, (i) recto-vaginal fistula, (j) increased leucorrhea, (k) premature menopause, (l) persistent anemia.

Radiologists will say that with modern technique and proper selection of cases, these complications need not and do not occur. With the exception of pyometra and post radiation intra-abdominal adhesions, we have personally seen the above complications in a relatively large number of cases, a number of them treated by some of the most prominent radiologists of this country. Most of the complications are quite distressing affairs for the patient. Even today x-ray burns do occur and when complicated with epithelioma, as a considerable per cent. are in later life, they become very serious as the ulti-

mate mortality of this type of epithelioma is very high.

Mass necrosis is a rather common complication if radiation is used in large uterine fibroids and brings in its wake still another complication. Thus Clark and Keene[12] emphasize the point that mass necrosis results in a cachexia out of all proportion to loss of blood. Emmett[16] and Polak[9] say in substance—radiation increases the necrosis in tumors which are already necrotic and by added acidosis increases the toxemia of the patient.

While some authors maintain that radiation sometimes relieves hypertension, we have seen a number of cases that developed this condition after prolonged and intensive x-ray treatment where no other cause for the condition could be ascertained. However, so long as there are so many cases of hypertension in which the etiology is obscure this must remain an open question.

When we come to a study of the effect of radiation on the sexual life of the individual and the questions as to whether radiation increases an existing anemia or not, we enter the field of real controversy.

Our own conclusions, stated in general terms, are that radiation has many times produced an artificial menopause that could have been avoided if the patient had been operated on instead; that an artificial menopause produced by radiation is much more distressing to the patient than one occurring normally and that it is much less amenable to treatment; and finally that radiation does increase the existing anemia and seriously impairs the hematogenic powers of the radiated individual.

All the authors whose writings have been reviewed cautioned against the use of radiation in childbearing women. Thus Miller[2] says, "Radiation should rarely be used before the age of 38 years. If menstruation does not recur pregnancy is impossible. If it does occur subsequent sterility is rather frequent and it is definitely known that when pregnancy occurs after radiation abortion is not unusual." Danforth and Grier[11] say no woman under 40 should be radiated. In spite of the above general statements, seven of the authors studied advise the use of radiation in adolescent haemorrhages. Six of these recommend it very strongly. One, Frank,[1] only if all other methods fail. Emmett[16] cautions that it will impair the reproductive functions of young women and McDonald[3] makes this significant statement, "Efforts to modify ovarian secretion by x-ray treatment unless used with great skill together with a large measure of good luck is likely to do more harm than good."

There was considerable difference of opinion as to just how radiation produced an artificial menopause. Of those who expressed themselves on this point seven were of the opinion that radiation acts upon the ovaries, one that it acts on the uterus and one that radium acts on the uterus and x-ray on the ovaries. As to whether an artificial menopause is more or less distressing to the patient than a normally occurring menopause, there is considerable difference of opinion. In round numbers 55% of the authors reviewed state it is more severe, 33% less severe and 12% about the same. Lynch[10] and Kouwer[14] are particularly emphatic that post radiation menopause is much more severe than normal menopause. This is naturally to be expected because it is much more suddenly produced and hence a much more severe shock upon the nervous system. Gynecological surgery went all through this experience in the last decade of the last century when the ruthless and almost indiscriminate sacrifice of both ovaries was an all too common practice in the hands of some near gynecologists. As an interne at the Cook County hospital, I had under my care three of these spayed women and I decided at that time that I would never remove all ovarian tissue in a woman before the normal menopause if it could be in any possible way avoided. I have in the last twenty years seen a considerable number of radiated women who were as complete nervous wrecks as the three above referred to. Evidently Miller[2] has had somewhat the same experience for he says in substance—nervous women should not be subjected to a sudden menopause with radium. In connection with this statement of Miller this is to be remembered: There is no way of telling in advance how severe the menopausal symptoms will be. One of my patients who before radiation seemed to have an unusually stable nervous system was a complete nervous wreck for fully two years after one treatment with radium for premenopausal bleeding. She finally overcame the disability and has been in normal health for the past six years.

As to the effect upon libido only three of the authors reviewed expressed an opinion. One

gave it as his opinion that its effect is unfavorable, two that it is not. Erskine[13] makes substantially the following statement: Regarding the effect of x-ray treatment upon the future sexual life, about two-thirds of the cases show no change; of the remainder half of them report an increase and half a decrease in libido.

One of the most serious effects of radiation is its deleterious effect upon the blood producing and regenerating functions of the body. A number of writers have called attention to this and it is one of the things we have noticed in a considerable number of patients of which we report the following two:

Mrs. J. V., aged 45 years; examined May 3, 1921, married one and one-half years, no pregnancy. Menstruation began at fourteen, regular, normal until two years ago when they became painful and were accompanied by severe backache, profuse bleeding at periods and occasionally between periods. Examination by physician at that time revealed a fibroid tumor of uterus for which the patient had x-ray treatments. On first examination a well developed muscular woman with a symmetrical tumor extending from symphisis pubis to two inches below umbilicus. Skin over area markedly bronzed due to four x-ray exposures at intervals of one week. Last one three weeks ago. Patient was operated on May 6, 1921. Low median laparotomy, pediculated fibroid size of grapefruit projecting from right upper horn of uterus, pea sized fibroid on fundus, both fibroids and right ovary removed. Cross section of larger tumor revealed a central necrosis the size of a navel orange. The interesting feature of this case is the fact that in spite of continuous treatment it has never been possible to relieve her of asthenia and a moderate anemia at variance with her previous robust health. Repeated blood counts show a blood picture of between three and one-half and four million reds and a hemoglobin of between sixty-five and seventy per cent.

Miss L. K., aged 47 years; examined at office, August 30, 1923. Slightly below par and slight secondary anemia—blood count 5,000/4,310,000/87/91. Under suitable treatment blood picture improved and when made next time was 9,800/4,800,000/85/88. Menstruation normal. In June, 1926, she went to Denver, Colorado to spend her vacation, and while there had a protracted, rather severe, premenopausal uterine hemorrhage for about a month before she came under the care of a prominent gynecologist of that city. He reports that on first examination he found "the uterus to be fibrous, the size of a large grapefruit, patient flowing very profusely; blood count 14,000/3,500,000/70." He put her to bed, administered 2 cc. doses of hemoplastic serum, hot douches at 115 degrees F., t.i.d. After a week, the bleeding lessened, and he then prescribed x-ray treatment by an x-ray specialist. The treatments, five in number, extended over a period of about a week. The first four, forty-five minutes in duration, and the last one, thirty minutes. I saw the patient on her return to Chicago on September 7, 1926, about a week after leaving Denver. Her blood count at that time was 3,450/3,210,000/55/85. The patient had a rather stormy time for more than a year; she was extremely nervous, asthenic, and had to give up her teaching position for a year; and not until eight months later was it possible to get her blood count anywhere near normal. On May 19, 1927, it was 6,850/4,540,000/70/75, and then only for a short period of time. She has been under constant treatment since and repeated examinations of her blood have been made. Two-thirds of these showed the red blood corpuscles below four million and the hemoglobin at seventy or below.

In order to illustrate the difference in the effect of surgery on the blood picture, we report the following two cases: Mrs. E. N., aged 34 years; admitted July 15, 1930—a somewhat obese anemic patient who complains of weakness, excessive and irregular menstruation for past four months, particularly severe for past two weeks. On speculum examination, a fibroid was seen projecting through cervix into vagina. Blood count 11,700/2,970,000/45/102. July 18, 1930, patient was anesthetized, thick peduncle severed with actual cautery and navel orange-sized necrotic tumor removed. The uterine canal was markedly enlarged, uterine cavity swabbed out with 95% phenol and then with 92% alcohol. The uterus, almost two times the normal size, contained numerous fibroids. On July 24, 1930, blood count 20,800/3,300,000/55. Patient made an uneventful recovery and went home on August 3, 1930, with the understanding that she was to return later for hysterectomy. The day she left the hospital her regular menstrual period began, the flow became progressively more profuse and patient was readmitted to hospital on August 13, 1930; and a subtotal hysterectomy including right salpingectomy was performed on August 15, 1930. Uterus contained a number of walnut-sized subserous and one submucus fibroid. Patient made an uneventful recovery, and on October 13, 1930, in less than two months after the last operation, blood count was 8,600/4,190,000/70/85.

Mrs. M. K., aged 44 years, August 16, 1930—excessive menstruation for two years, past four months irregular and even more excessive. Blood count 13,200/3,680,000/45/63. Diagnosis: Multiple fibroid of uterus filling pelvis, operated on August 20, 1930; supercervical hysterectomy, right salpingoovarectomy; multiple fibroids of uterus, one the size of a hen's egg protruding through cervix. Patient made an uneventful recovery. December 15, 1930, blood count 15,000/-4,280,000/75/89. January 16, 1932, blood count 17,850/-5,090,000/75/74.

The following history illustrated an observation that we have made in a number of patients following hysterectomy for severe uterine bleeding, namely—that a considerable number of such patients, even without the administration of iron, actually develop a slight plethora for a time. This is in strong contrast with the patients who have been radiated, who often suffer from an in-

tracticable moderate secondary anemia for many years following the radiation.

Mrs. L. H., aged 50 years; November 15, 1926, blood count 3,960,000. Six months and two months ago noticed bleeding from rectum due to pressure of fibroid incarcerated in pelvis. Operated on November 17, 1926. Fibroid size of grapefruit involving posterior surface of uterus, firmly wedged into pelvis, removed with great difficulty. Patient made uneventful recovery. Blood count, May 21, 1928, 7,200/4,520,000/70/77; blood count, February 11, 1929, 7,150/5,480,000/75/70.

Our chief contra-indications to radiation are 1. large fibroids, 2. pedunculated subserous fibroids, 3. uterine polypi, 4. tortuous cervical canal, 5. pain, 6. where complicated by other surgical conditions such as ovarian cysts, chronic appendicitis, gall stones, etc., which can and should be relieved at the same time by surgical intervention, 7. tumors undergoing necrotic, malignant or calcareous degeneration, 8. tumors showing very rapid growth, 9. uterine bleeding associated with pregnancy, 10. submucous fibroids, 11. uterine tumors associated with adnexal disease, 12. during childbearing period, 13. patients suffering with serious anemias.

All authors studied agree with us in the first ten contra-indications listed above. In reference to 1. there were some qualifying observations. One author made the statement that no uterine fibroid larger than a three months' pregnancy should be radiated while another put the limit of size at a four months' pregnancy.

All who expressed an opinion about pedunculated subserous fibroids were agreed that these should never be radiated because of the danger of destroying the blood supply of the tumor and causing it to become necrotic. As to the remaining three contra-indications listed by us, there was slight difference of opinion in one and marked in two. Of the eleven articles which expressed an opinion as to whether radiation was permissible when benign uterine bleeding was complicated by adnexal disease, ten were strongly opposed to radiation and only one in favor of its use and this one apparently only in very mild conditions. Thomas and Hill:[18] "We have not found that a mild inflammatory condition of the uterus and adnexa was a definite contra-indication to the use of roentgen radiation. On the contrary, we have found that after radiation some of these cases cleared up in the same way that other inflammation responded to roentgen treatment." On the contrary, Mathews[17] protests vigorously against the use of radium in the treatment of every inflammatory case, either acute or quiescent. Polak[9] says 54% of fibroids are complicated by some form of tubo-ovarian disease and further states that old inflammatory disease may be lighted up by radiation. The question of the employment of radiation during the childbearing period has already been discussed at some length under complications.

As to whether surgery or radiation is safer in cases complicated with pronounced anemia, there is again marked difference of opinion. 55% of those who expressed themselves preferred surgery in this class of patients while 45% advocated the use of radiation. Thus Solomons and McDonogh[6] make the following statement: "X-rays are quite unsuitable for desanguinated patients for the first dose usually increases the anemia. There is liable to be severe shock and secondary anemia after heavy dosage." Miller[2] on the other hand advises radiation in similar conditions in the following terms: "One use which I can heartily recommend is the employment of radium as a temporary measure. Some patients who are bled out may be treated with radium to stop the hemorrhage." Erskine[13] makes the following statement: "Any patient whose hemoglobin is less than 65% should be treated with x-ray no matter how large the tumor or what complications may be present."

Premenopausal Hemorrhage. Our conclusion is that there is a simple surgical remedy much better than radiation for this condition. The method which we have used for the past ten years with complete satisfaction is a slight modification of a procedure first recommended by Dr. R. S. Hill of Montgomery, Alabama. Instead of injecting the full strength formalin into the uterine cavity, we pack the cavity for two minutes with plain sterile gauze saturated with full strength formalin. If the bleeding has been excessive, the patient is anesthetized and the cervix dilated with male sounds, carefully curetted, packed with dry gauze and then with the formalin gauze. If the bleeding has been less severe the patient is given one-fourth grain morphine and one one-hundredth grain atropin by hypo twenty minutes before operation, the cervix gently dilated with male sounds, and then packed with the formalin gauze. This procedure is, we believe, at least as effective as radiation and has none of its objections. We are convinced that

the destruction of ovarian function even near the menopause is something that should be avoided whenever possible because ovulation is probably not the only function of the ovaries. With this position Selheim, quoted by Scott,[7] agrees when he says in substance—sudden destruction of ovarian function even at the beginning of the climacteric does not occur without leaving a trace and it often causes true signs of loss of function not seen in extirpation of the uterus. Kouwer[14] says in substance: x-ray castrates unnecessarily. Even over fifty years there may be severe symptoms after castration. On the contrary, Fugate[15] quotes Howard Kelly as saying that if radium had no other use than in the treatment of benign uterine hemorrhage due to changes in the endometrium, it would still be the greatest therapeutic agent known to gynecology.

CONCLUSIONS

From our review of the recent literature on the subject, we have come to the conclusion that there is a gradual swing toward surgery and away from radiation in the treatment of these conditions. Thus one author in an article which appeared in 1918 leaned very strongly toward radiation, while in an article published in 1926 he cited many contraindications; and a number of writers stated that they were using radiation less and less.

It would seem evident that when the number and frequency of complications are taken into consideration and all the contra-indications listed by the various authors are scrupulously observed, the number of cases of benign uterine hemorrhage in which radiation is indicated is very limited.

Finally, we wish to emphasize again the possibility of a persisting anemia and the danger of severe nervous disturbance following radiation and the advantages of the Hill treatment for premenopausal bleeding.

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ORAL VACCINATION

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Introduction. Antigenic substances are ordinarily introduced into the body as a result of an accidental invasion of the host by some parasitic micro-organism or virus. Needless to state, this is a hazardous process which places the life of the host in jeopardy. Antigens may be introduced by injection, an artificial procedure as first used by Jenner to prevent smallpox. The term "vaccination" which he applied to the injection of cow material (vaccinia) for artificial immunity is still used today in the wider sense that includes the injection or application of any antigenic substance into the body.

The artificial injection of an antigen is accompanied by a local and systemic reaction. Healthy persons object to being made uncomfortable or ill by the subcutaneous injection of an antigen. If methods can be found whereby such a substance can be introduced into the body without

discomfort to the host, a new field of preventive medicine will be opened that has a vast scope of practical application.

The attempt to introduce a new method of vaccination, relatively untried clinically, in the presence of a satisfactory procedure of proved practical clinical value, is apt to meet with a degree of opposition so strong as to obscure any points of actual merit residing in the new method. Still, if experimental evidence points to a definite clinical value of these new concepts, they are entitled to a careful consideration and trial by scientific investigators.

The aim of this paper, then, is to report—in conjunction with brief literature reviews—observations made upon the absorption of antigenic substances through a normal, intact and uninjured body surface covering layer.

Historical. Attempts to produce artificial immunity by subcutaneous injection, oral ingestion or surface application of an antigen date back to time immemorial. Telephus, a mythological character, cured his wounds by applying rust from the sword which inflicted it. The savage natives of the east coast of Africa vaccinated themselves against snake poisons by applying a paste containing the virus to skin incisions. The Chinese and Siamese introduced variolous scabs into the nostrils and skin lesions for protection against smallpox.

Oral vaccination, too, had considerable vogue. The Aztecs chewed poison ivy leaves as a prophylactic measure. Mithridates, King of Pontus (120 B. C.) immunized himself by drinking the blood of ducks that had been treated with toxic substances; he also ate poisonous mushrooms in small quantities. The Roman Pliny the Elder recommended the livers of mad dogs as a cure for rabies. These instances might be multiplied without end, but let us consider the more recent aspects of local immunity.

About forty years ago Ehrlich[1] showed he could develop a high degree of immunity in mice against ricin and abrin by feeding them cakes containing these substances. Since then a number of investigators have contributed to the study of the problem of oral vaccination, but it remained for Besredka[2] to crystallize the subject in a series of publication, culminating in his "Local Immunization" (1927). In this work he sets forth his conception of local immunity as being due to the selective affinity of bacteria for certain organs in which reside groups of cells which he calls receptors. The latter are found in the mucous surfaces of the body as well as in the skin.

According to Besredka's theory virulence is not an important nor an absolute factor, because the same bacterium may show varying degrees of pathogenicity for the same animal, depending on which group of cells is made the receptor. Thus, his definition of a virulent bacterium is one which possesses a great affinity for the receptive cells. This affinity is followed by a reaction between the bacterium and the cell with the liberation of a third substances which is a product of secretion or disintegration of the bacterium. When this substance, which he calls antivirus, is in sufficient quantity, it repels the leucocytes; and phagocytosis being inhibited, the bacteria may multiply and thrive. Conversely, a slightly pathogenic micro-organism is one having little or no affinity for the receptive cells, the reaction following their union is absent or feeble, only slight disintegration occurs, the leucocytes are not repelled, and phagocytosis may proceed without interference.

Besredka states that the elective localization of the virus is quite definite. Thus, if a pathogenic intestinal bacterium, such as B. typhosus, B. dysentericae or V. cholera is introduced into the body by any route, it will finally be attracted to the intestine where the defense reaction takes place. It follows then, he reasons, that if the resistance of the intestinal wall is decreased, there is an interference with the immunity of the whole animal. Continuing this line of thought, Besredka believes that the process of vaccination consists in strengthening the specific sensitive receptor cells by accustoming them to the virus. Thus the receptive cells are subjected to the influence of the virus until a condition of adaptability results between the two. The receptive cells become indifferent to the bacteria, no union occurs, no disintegration of bacteria results, and phagocytosis proceeds normally. Vaccination is really a de-sensitization of the receptive cells which then react to the antigen as though it were avirulent. To summarize: the receptive cells or fixed phagocytes of the skin or intestine are vaccinated. The free phagocytes of the blood render the vaccine assimilable for these cells by the destruction of bacteria. Active immunization is therefore

brought about by the active cooperation of both these factors.

While Besredka deserves great praise for the impetus his work has given to the study of local immunity, one must also recognize the flaws in his theories. Gay[3] points out that the portal of entry must not be confused with the locus minoris resistentiae.

"Although the portal of entry in typhoid is through the intestine, the area of selective action in both man and rabbits is the bone marrow and gall bladder. It may still be true that closing the portal of entry by immunizing will protect, but that is not equivalent to saying that the specifically susceptible cells have been immunized. . . . Understanding of local immunity lies in deeper understanding of the cell changes involved. The idea that it is the cells that are affected ultimately in the pathogenic activities of bacteria, that a particular type of cell is specifically attacked by any given micro-organism, the idea that a certain variety of cells form each particular variety of antibody, and correlatively, that such cells are responsible for active immunity, are all vague and undefined notions, scarcely to be tagged in any instance." (Gay.[3])

In 1919 Besredka showed that the rabbit was not susceptible to infection by mouth with the typhoid-paratyphoid group. By the use of bile he was able to break down the intestinal barrier. His explanation was that bile had a desquamating action on the intestinal mucosa, denuding the receptive cells which were then accessible to the micro-organisms. Later we shall discuss our view of the action of bile on permeability. By this method animals succumbed to oral infection, showing all the lesions in the gall bladder and small intestine that are typical of those following intravenous inoculation. With some variation in technique immunity against the typhoid-paratyphoid fevers and Shiga bacillary dysentery could be produced in the intestine.

Besredka's typhoid and dysentery work has been substantiated by many investigators. In 1914 Metchnikoff and Besredka[2] immunized chimpanzees by the oral route, while Lumiere and Chevrotier (Besreka[2]) had similar results with guinea pigs. Hoffstadt and her co-workers[4, 5, 6] administered triple typhoid bacterin to humans in liquid and capsular form. The bile-prepared individuals were said to have shown greater immunity as indicated by the blood agglutinin titer. Shiga[7] showed permeability of the gut to B. Typhosus when administered orally after bile preparation. Zingher and Soletsky[8] however, were unable to corroborate Besredka's results although they followed his technique in attempting to immunize rabbits orally with ox-bile and para-typhoid vaccine.

Both Kurokawa[9] and Reiter[10] showed immunity to typhoid in mice after giving killed typhoid vaccine, dried vaccine, bacteriophage-dissolved typhoid, and filtrates from 25 days old broth cultures by the peroral route. They used sodium benzoate instead of bile. Endo, Mizoguchi and Naito[11] showed that typhoid organisms become suitable for oral immunization when mixed with saponin.

According to Enlows[12] some protection is afforded by oral vaccination of laboratory animals against Shiga type of dysentery. Delater[13] also affirms Besredka's work with this type of organism. Similar confirmation is made by Sivori,[14] Burke and Barnes,[15] Kluhine[16] and Golovanoff.[17]

Cantacuzene and Pancitescu[18] also reported favorable results in a typhoid epidemic of a group of over 16,000 individuals by oral vaccination. Vaillant[19] reported success in checking typhoid epidemics in French towns, using bile and typhoid-paratyphoid vaccine. The Pretoria correspondent[20] reported encouraging results from vaccinating large numbers of natives orally, administering a fluid form of killed typhoid organisms following bile pills. Boyd[21] vaccinated nearly 2,400 persons with no ill effects and no subsequent infection, while Gauthier[22] had a similar experience with more than 1,200 persons. Several investigators have reported success in controlling dysentery epidemics by oral immunity. Pascal[23] claims to have reduced the incidence of the disease among 400 persons from 22.72% to 0.75% within one year. Anglade[24] and Antonovsky[25] obtained results in other epidemics in which the incidence of infections was reduced from one-fourth to one-tenth of their previous incidence.

A survey of the literature reveals that at least 500,000 persons (including war figures) all over the world have been vaccinated against typhoid by the oral route. The percentage of successful vaccinations as reported by all investigators is so high as to indicate a convincing efficiency of this method. Credence is lent to the support of these reports when one considers that they are concerned with groups heterogeneous as to race, climate and habits.

However, we should be the first to admit that even these favorable reports must be scrutinized

very carefully in view of the fact that a rigid control of orally-vaccinated and non-vaccinated for scientific comparison is practically impossible in such a huge number of individuals.

Nevertheless, there are certain groups of experiments which are so significant as to justify the application of the conclusions derived from them to the larger body of cases. Among the European epidemics of typhoid, the one occurring at the La Fleche (France) military school is worthy of record. In this instance there were 521 students all sharing the same type of food, lodging, work and recreation. Of this number 268 received bile-vaccine by mouth. Only five new cases developed thereafter, all within the period of incubation. The remaining 253 were injected subcutaneously and 10 new cases developed subsequently, occurring 20 days after vaccination, indicating infection superimposed on insufficient or inefficient immunity.

Another instructive report is that of the typhoid epidemic in Moreni, Roumania, by Cantacuzene and Panitescu,[18] who observed a group of 16,534 persons treated as shown in Table I.

TABLE 1.

Immunity	Number of Cases	New Cases	Incidence	Deaths	Mortality
Subcutaneous	8,673	3	.035%	3	.035%
Oral	2,286	6	.26%	0	0%
Control	5,575	90	1.6%	6	.1%

Starzynski[26] reported a typhoid epidemic in Lodz, Poland, where 28,166 persons were vaccinated orally with but three new cases developing (excluding those cases developing within one week and after one year). The incidence was 0.15% as compared with the 1.35% incidence computed from 993 cases developing among the 73,494 non-vaccinated persons.

Garbat[27] cites another typhoid epidemic occurring in Sao Paulo, Brazil. In a group of 63,000 vaccinated orally, the incidence of typhoid was .01% among the 28,000 who were under official observance and .005% in the remaining 35,000 who were sent oral doses on request. In the subcutaneously vaccinated group of 10,000 the incidence was .17%. The reports of Vaillant,[19] Boyd[21] and Pascal[23] have already been mentioned.

The reports concerning the effectiveness of oral vaccination in combating dysentery infections are quite as encouraging as those concerned with typhoid epidemics. Nicolle and Conseil[28] report a very instructive experiment. Four volunteers were accepted, two of whom were immunized perorally, while two acted as controls. The former remained perfectly well; both the latter contracted dysentery and showed B. Shiga in their stools.

Anglade[24] reports an epidemic in a garrison at Versailles, summarized as follows:

1. Orally vaccinated	546
New cases developed	42
Incidence	7.6%
2. Control	1,070
New cases developed	297
Incidence	27.75%

Antonovsky[25] quotes figures among the civil population of Petrograd and the personnel of the Botkine Hospital. These results are recorded in Table 2.

TABLE 2.

Civil Population	Number of Cases	New Cases	Incidence
Orally vaccinated	1,000	12*	1.2%
Control	1,768	56	3.1%
Botkine Hospital			
Orally vaccinated	257	1†	0.4%
Control	105	4	3.8%

*Nine of these developed within 10 days.
†Mild case.

Finally, the report of the Commission of Epidemics, League of Nations, concerning dysentery outbreaks in Greece, as given by Gauthier[29] has a significant bearing on the practical aspect of the question.

1. Island of Hydra: There were 22 cases of dysentery and 3 deaths among 700 persons when oral vaccine was administered. The epidemic ceased abruptly and completely. No new cases developed subsequently.

2. Lazaret de St. George (Cilicie): At the time that oral vaccination was started among 2,800 individuals, there were 280 active cases of whom 80 died within the first nine days of the onset of the epidemic. Eight days after vaccination by mouth the epidemic ceased. No new cases developed.

3. Kokinia: Among 4,800 refugees 400 cases of dysentery developed resulting in 50 deaths. Then two-thirds of the population was immunized by mouth, the other one-third being observed as controls. The epidemic stopped immediately among those treated orally, whereas the disease continued for months among the control group, in which 194 new cases developed.

4. Phalere: A camp of 340 refugees was placed near Kokinia where the epidemic was raging. All were orally immunized. Although both communities were dependent on a common water-supply, no new cases developed at the Phalere camp.

In this country the trial of oral vaccination is necessarily limited by the novelty of the procedure and the lack of experimental material offered by the sporadic outbreaks of enteric fevers. Hoffstadt and her co-workers[4,5,6] orally vaccinated 266 persons against typhoid and showed positive agglutination titers in 88% of their cases, the great majority being positive in dilutions of 1:400 to 1:600. These are the highest titers reported in human experimental work, but they are not at all improbable. Garbat[27] has orally vaccinated 105 private patients against typhoid with no untoward results. Our personal observations will be considered in the following section.

EXPERIMENTAL

1. *Animal.* Preliminary to our attempts at demonstrating absorption of antigens via the intestines in humans, a number of introductory experiments were carried out on dogs. Taking a cue from Besredka's work we made use of bile in an effort to increase intestinal absorption of antigen. We were interested in the determination of three factors:

1. The influence of bile on gastric acidity.

2. The influence of bile on intestinal bactericidal action.

3. The influence of bile on the permeability of the intestinal tract.

1. In determining the effect of bile on the gastric acidity we were obviously interested in obtaining that concentration which would keep the gastric contents alkaline in reaction without any undue motor or secretory disturbance. These experiments were conducted on three dogs, each of which had a non-leaking fistulous opening into the stomach. These dogs had been trained over a long period previous to this work so that the psychic factor may be considered negligible. The technique adopted was similar to that of Arnold and Finder.[30] Experiments were conducted during the forenoon, the animals were fed in the afternoon and used on alternating days, 18 hours after feeding. A total of fifty-one tests, seventeen on each dog, was made.

Desiccated bile (Difco) was used and various amounts were diluted in sterile distilled water up to a volume of 100 c. c. To each was added the washings of one agar petri dish of B. prodigiosus for use in a set of related experiments. This suspension was placed in the stomach through a tube inserted through the fistula, and gastric contents removed at ½ hour intervals for 2 to 3 hours. Five-tenths (0.5) c. c. of each specimen (in a few c. c. of distilled water) was titrated with N/10 HCl or NaOH and the results recorded in clinical units of free acid or acid-deficit per 100 c. c. gastric contents.

It was found that concentrations of bile of 5% and higher caused vomiting within a short period of time, followed by diarrhea. A series of 15 experiments with a 1% solution of bile proved this concentration to be optimum in that it left the stomach rapidly and was followed by a certain period of acid-deficit. These results are graphed in Chart I.

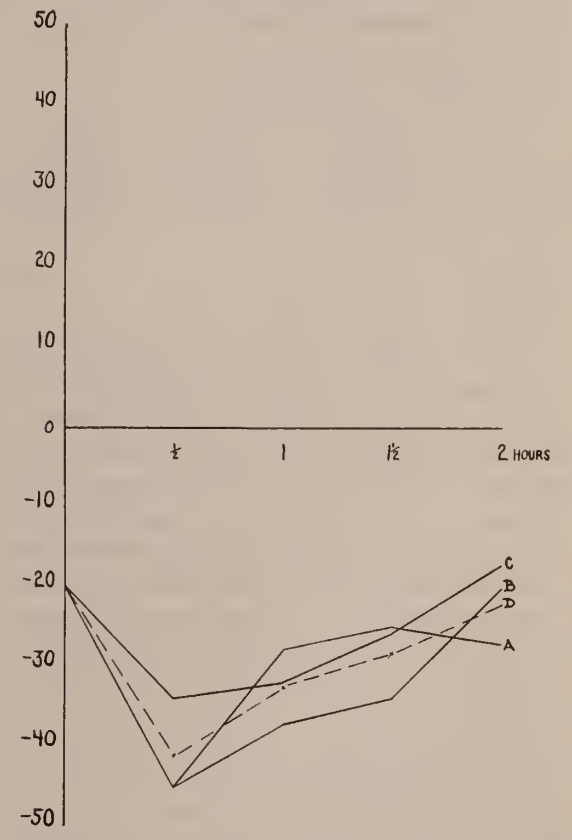


Chart I: 100 c.c. of 1% bile plus 1 agar petri dish of B. prodigiosus. Ordinate: clinical units free acid or acid-deficit per 100 c.c. gastric contents. Abscissa: time in ½ hour periods. A-curve: dog H. B-curve: dog LB. C-curve: dog BW. D-curve: average curve. The acid-deficit of the mixture placed in the stomach is indicated at the beginning of the curve.

2. The influence of bile on the intestinal bactericidal action was studied in conjunction with the above experiments. The same dogs were used, since each had also a non-leaking cecal fistula. Two c. c. specimens were pipetted hourly from the cecum into sterile saline for 5 or 6 hours, and then plated (1 standard loop per plate) in order to determine whether the B. prodigiosus introduced into the stomach with the bile had reached the large intestine in a viable state. The plates were read 24 hours later and the growth compared with the original standard agar petri dish growth. These results were compared with control tests in which distilled water was used instead of 1% bile. These results are recorded in Table 3.

TABLE 3.

Solution.	Time of Appearance of Bacteria after Ingestion.	Duration of Positive Cultures.	Concentration of Organisms.
Distilled Water and Bacteria	1½ to 3 hrs.	5 hrs.	15% to 20%
1% Bile and Bacteria	½ hr. or less	At least 5 hrs.	90% to 100%

3. The permeability of the intestinal tract was determined by examining the thoracic duct lymph for organisms. The technique followed was that of Arnold and Brody.[31] The thoracic duct was exposed under local anesthesia (2% novocaine) and cannulated, and control samples of lymph collected. Under local anesthesia the duodenum was brought to the exterior through a midline incision. The following suspension was injected into the duodenum through a fine needle: one heavy 24 hour agar culture of B. typhosus; one moderately heavy 24 hour agar culture of B. prodigiosus (i. e. saline washings); one gram of dessicated ox-bile; sterile saline to make a volume of 50 c. c. Specimens of lymph were taken in sterile test-tubes immediately and every 5 minutes after injection for about 30 minutes, and later plated out—4 drops to the plate—on agar and Endo's medium. Readings were made after 24 hours incubation.

A series of 17 experiments were carried out. B. prodigiosus from its constant appearance in the lymph stream in earlier experiments was accepted as the standard of control. The results are shown in Table 4.

The concentration of leucocytes in the peripheral capillary beds may be taken as an index of the relative status of the sympathetic-parasympathetic or autonomic balance of the animal organism. Petersen[32] has dealt with the significance of the leucocytic count in relation to the functional status of the vegetative nervous system. The results of a typical experiment of this nature are shown in tabular form in Table 5. The alternating peripheral leucocytosis and leucopenia can be considered as changes in the autonomic balance of certain body functions. This question cannot be dealt with in detail in this short article. The alterations in the concentration of leucocytes are only one of several ways to demonstrate changes in the involuntary regulating mechanism of body function. (Petersen and Levinson.)[33]

TABLE 4.

Organism.	Time of First Appearance.	Duration of Positive Lymph Cultures.	Average Per Cent. of Cases Showing Organisms.
B. prodigiosus	Within 7 minutes	35 minutes	93%
B. typhosus	Within 10 minutes	25 minutes	78%

TABLE 5.

Time	Leucocyte Count	Time	Leucocyte Count
Control	14,200	21 min.	19,300
3 min.	13.500	24 min.	21,000
6 min.	13.600	27 min.	12,200
9 min.	13,800	30 min.	12,400
12 min.	14,500	33 min.	15,200
Bile Ingested		36 min.	18,000
3 min.	13,200	39 min.	18,000
6 min.	11,600	42 min.	12,000
9 min.	10,000	45 min.	16,000
12 min.	13,300	48 min.	12,300
15 min.	15,600	51 min.	12,600
18 min.	12,000	54 min.	13,000

It has been found that bile, eggwhite and alkaline phosphates, alone or in combination, caused, after a latent period of from 15 to 30 minutes, a marked peripheral leucocytosis, which remained high with greater or smaller fluctuations. The significance of this phenomenon will be discussed later.

The following conclusions may be drawn from these preliminary experiments on dogs in a fasting, post-digestive state:

1. Bile in concentration over 5% causes vomiting and diarrhea.

2. When bile solutions of more than 5% strength are retained they show a relatively short period of acid-deficit, a slower emptying time, and a more rapid concentration of free acid.

3. A bile solution of 1% was considered optimum in fasting animals in that the period of

acid-deficit was relatively prolonged and the emptying time reduced.

4. Bile apparently inhibits the bactericidal power of the intestinal tract of fasting animals, and markedly diminishes the time normally required by bacteria to reach the cecum.

5. Bacteria placed in the duodenum in a bile suspension can be recovered within a few minutes from the thoracic duct lymph.

6. Bile introduced into the fasting stomach causes a marked change in the number of leucocytes per unit volume of blood in the peripheral capillary system.

2. *Human.* Following our preliminary animal experiments we continued our investigations in the study of oral vaccination on a number of human subjects.

The experiments dealing with antigenic absorption by mouth were carried out in two groups. The first consisted of 12 persons who received vaccine orally, while the second was limited to 3 persons who received bacteriophage-dissolved B. typhosus. These experiments were carried out in the morning on fasting subjects. Each individual in the first group received by mouth one gram of desiccated ox-bile (divided in 2 gelatine capsules); this was followed immediately by 85 c. c. of distilled water. One-half hour was allowed for the capsule to dissolve, after which 1 c. c. of standard vaccine (Lilly) was taken in 15 c. c. of distilled water. The subject was permitted to have his lunch 2 to 3 hours later.

Before ingestion of the vaccine, blood was taken and the agglutinin titer determined as a control. The blood was subsequently examined at 7 day intervals for a period of 3 weeks. Of the 12 cases followed through the period of observation 10 (or 83.3%) showed the presence of agglutinins after 3 weeks, while 2 (or 16.7%) showed no increase in the agglutinin titer after the same period. The percentage of cases showing positive agglutinations are given at weekly intervals in Table 6.

Table 7 shows the average titer of agglutinins in the 10 positive cases.

In the second group of 61 cases the same procedure was followed as in the first with the exception that, instead of vaccine, 2 c. c. of phaged B. typhosus was given perorally for three consecutive doses at intervals of 24 hours and the blood instead of being examined for agglutinins every 7 days was examined at the end of 21 days. The antigenic properties of bacteriophage have been shown by Arnold[34], Larkum[35], Harris and Larimore[36], and others. On this basis, results similar to those in which the whole organism was used were anticipated. Of the 61 cases examined at the end of 21 days, all 61 showed the presence of agglutinins. Table 8 shows the average titer of agglutinins in the 61 positive cases.

TABLE 6.

Day	Number of Cases	Per Cent.
7th	8	66.7
14th	9	75.0
21st	10	83.3

TABLE 7.

Number of Cases	Per Cent.	Positive Agglutination in dilution of
1	10	1:20
4	40	1:40
5	50	1:80

TABLE 8.

Number of Cases	Dilution	Per Cent.
15	1:40	24.5
27	1:80	44.2
15	1:160	24.5
4	1:320	06.6

There was a case of typhoid fever in the hospital and while the patient was delirious the same procedure as given was followed and the day following the administration of the bacteriophage orally the temperature became normal for the first time and the patient became rational. The temperature curve showed more of a crisis than the typical lysis. Since then the temperature has been ranging from normal to 102° F.

I. Ruchka and M. Melnick used bacteriophage in the treatment of patients with typhoid. Of 69 patients with a severe form of typhoid, 52 were given bacteriophage orally; 17 were given subcutaneous injections. Usually one dose of 10 c. c. of the bacteriophage was given in water, containing a small amount of sodium bicarbonate, on fasting; rarely the dose was repeated the next day. In cases of subcutaneous, a dose of from 1 to 3 cc. was given in the abdominal wall; in a few cases the injection was repeated. The reactions to the bacteriophage consisted in the development of diarrhea, in a reappearance of the rash, and an increase in perspiration. The bacteriophage treatment almost constantly resulted in a decrease in the fever by one or two

degrees, two or three days afterward. In most of the cases, this was preceded by a rise in the temperature by from 0.3 to 0.8 degrees. The general condition improved the next day. The reactions were more pronounced when the bacteriophage was used subcutaneously. Of the patients treated, four (5.8 per cent.) died. One of them contracted erysipelas after having recovered from the typhoid; another was admitted to the hospital in a hopeless condition, and a third suffered with a grave pneumotyphoid. During the same epidemic, the mortality among patients not treated with the bacteriophage was from 7.5 to 8.5 per cent.

Conclusions. The historical, theoretical and experimental considerations of oral vaccination have been reviewed. This method of increasing resistance to certain diseases should be considered by physicians and public health workers.

Discussion. The contents of the lumen of the gastro-intestinal tract have a definite acid-base balance and a relatively constant bacterial flora for the various zones or levels in the normal animal, including man. (Van der Reis[37], Arnold[38].) The digestive ferments are secreted into the lumen of the alimentary tract at various levels, and hydrolysis of sugars, fats and proteins takes place within this hollow tube. Substances ingested by mouth are broken up by ferment action into smaller molecules before absorption takes place. The whole problem of oral vaccination resolves itself into a method of preventing hydrolysis of the antigen within the lumen of the gastro-intestinal tract and insuring absorption of the unchanged bacterial proteins. We think this can be done by using bile as a vehicle. Besredka considers the action of bile as a local solvent of mucus and a desquamating agent. This introduces a mechanical factor. The antigen administered after bile would then get into the body through the desquamated areas in the wall of the intestinal tract. If this were true, it would be difficult to understand how one gram of desiccated ox-bile in 100 c. c. of water can produce such a change in the wall of the intestine when a higher concentration of bile is secreted into the duodenum in much larger volumes during the course of the day. The regurgitation of bile from the duodenum into the stomach seems to be a physiological process when the gastric acidity reaches a certain concentration. The presence of bile in contact with the gastric mucosa is probably a physiological method of inhibiting further acid secretion. The duodenal contents may not only neutralize the excess acidity, but the bile can act by inhibiting acid secretion.

We have presented evidence tending to show that bile placed in the post-digestive stomach is not associated with a response of this organ in secreting acid. The stimulation of the stomach by the oral ingestion of a protein can be inhibited by administering bile in certain dilutions before the protein is ingested. There is a period of approximately two hours after the ingestion of bile into a fasting stomach when an antigenic substance can be passed through the stomach without exciting acid secretion.

Our conception of the mechanism of oral vaccination, by using bile, is based upon a different principle from that suggested by Besredka. We consider the mechanism not as a mechanical desquamating agent which thereby increases the probability of absorption of the antigen through the injured mucosa, but as a physiological process. The normal stomach during the post-digestive period (8 to 12 hours after a meal) does not have 100 c. c. of a 1% bile solution suddenly placed within its lumen. Boldyreff[39], Olch[40], Bashenow[41], Maclean and Griffiths[42], and many others have emphasized the role played by regurgitation of the duodenal contents into the stomach during digestion. When a solution of bile is suddenly brought in contact with the empty resting stomach during a post-digestive period, the fasting acid secretion is inhibited and is followed by a period of diminished secretion. During this time interval, an antigen can be passed unchanged through the gastric lumen into the duodenum. The acid-base balance of the duodenum will be shifted toward the alkaline side. Arnold[38] showed that this was the best intra-intestinal reaction for passage of bacteria and dissolved protein through the wall of the intestinal tract.

Space does not permit a discussion of the question of active immunity without an inflammatory reaction accompanying and following the introduction of the antigen. The influence of the inflammatory reaction, with the systemic alterations in body function, upon the demonstrable antibody titer in vitro experiments must not be lost sight of in evaluating the efficiency of oral vaccination.

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DOCTORS WHO HAVE ACHIEVED FAME IN OTHER FIELDS THAN MEDICINE*

Dr. Abraham Levinson

Dr. Abraham Levinson, pediatrician, 30 North Michigan Avenue, Chicago, is a medical historian as well as a physician. He has an interesting collection of books, prints and medallions that have evoked the admiration of all who have seen them. He takes greatest pride, however, in his medallions, the collecting of which he has made his special hobby.

Dr. Levinson traces his original interest in medallions to his acquisition several years ago of a beautiful medallion of Pasteur. He has been constantly adding to his collection with each new trip to Europe, until he now has in his possession scores of artistic bronze medals covering a vast variety of subjects.

*Cuts from an article by Dr. Levinson in *Hygeia*, January, 1931.

The medallions, most of which are circular in shape and about the size of a silver dollar, bear on their face the likeness of the person whom they commemorate, and often, on the reverse side, figures, symbols or inscriptions depicting the achievements for which he was famed. Important historic events in medical and scientific progress and outstanding figures in the history of literature, philosophy and science are graphically presented in this way. Several of the medallions bear the date on which they were issued, usually the celebration of the birthday of the founder of a movement, or the anniversary of the founding of some institution.



Fig. 1. Medallion issued by the French Society for the Protection of Infancy.



Fig. 1. The other side of the medal that helped arouse the French to protect their infants.

Some of the pieces in the collection are very rare and were procured only after a diligent search through little towns and villages, the birthplace of literary and scientific men of note, and in obscure curio shops seldom reached by the ordinary tourists. A few of the modern medallions were given to Dr. Levinson by his friends who knew of his interest in them. Among these is a medallion of the medical historian, Prof. Neuburger of Vienna, and of some American physicians such as William Beaumont, Abraham Jacobi and Nicholas Senn.

The most artistic medallions in Dr. Levinson's collection are French or German in origin, although many of them were found far from their original source—in Austria, Hungary, Holland, Belgium and even in the Orient. An exquisite piece found in a little shop in Budapest is the medallion showing Ehrlich and his assistant, Hata, at work in the laboratory. An unusual silver medallion bears the figures of the famous Belgian anatomist, Vesalius, one of the rarest liknesses of Vesalius in existence. It was struck by the Society of Medicine of Brussels twelve years after the French Revolution.



Fig. 2. Medallion issued by French republic to celebrate the passing of the famous "loi Roussel," a law passed in 1874 for the protection of infants.



Fig. 3. German medal issued during the World War to get funds for a children's charitable institution.

Two interesting coins are found in the collection. One shows the figure of the surgeon, Billroth. It was issued by the Austrian government in 1929 to commemorate the centenary of his birth. The other, which bears the face of Aesculapius, is of more than passing interest because of its antiquity. It dates back to the second century.

Three large wall plaques are found in Dr. Levinson's collection. All three are very rare. One, made in 1836, shows in black relief the finely cut profile of Dr. Charles-Michel Billard. Dr. Billard, a French physician, is the author of a treatise on pediatric pathology that is looked upon as a classic to this very day. This likeness of Billard is said to be the only one in existence, as no photographs of the scientist have been found. The second plaque depicts Emil von Behring, the discoverer of diphtheria antitoxin. It was presented to Dr. Levinson by the manufacturers of antitoxin in Leverkusen, Cologne. The third plaque is of Francois Magendie, the French physiologist.

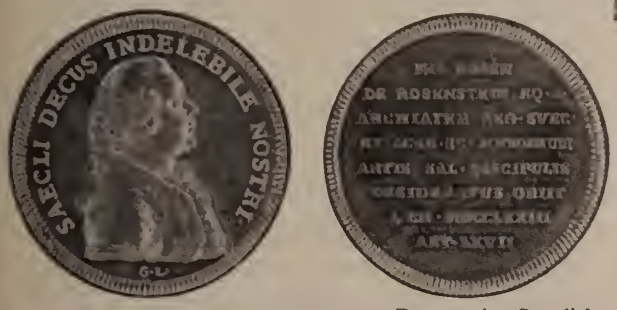


Fig. 4. Medallion of Rosen von Rosenstein, Swedish physician, one of the early advocates of child welfare. (Front and back.)

Dr. Levinson's collection of medallions may be classified into three divisions: 1. Medicine and general science; 2. Literature and philosophy; 3. Motifs of child life. A few miscellaneous medals on subjects that do not come under these classifications also appear in the collection.

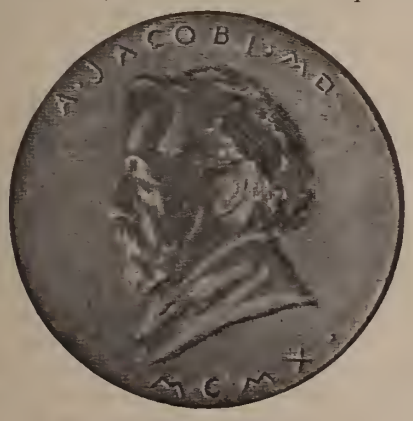


Fig. 6. Medallion honoring the first professor of pediatrics in the United States.



Fig. 5. Medallion in honor of the renowned French obstetrician. Pinard. On the back of the medallion there is an inscription: The milk of the mother belongs to the child.

In the first group, *Medicine and General Science,* are found among others the following:

Aesculapius, the god of medicine.

Hippocrates, the father of medicine.



Fig. 7. Rousseau, the French literateur, who advocated maternal nursing.

Vesalius, the anatomist.

Boerhaave, the Dutch physician, founder of a new school of medicine.

Hoffmann, pupil of Boerhaave, famed for the Hoffman drops.

Haller, the physiologist.

Gall, the neurologist and father of phrenology.

Bichat, the French anatomist.

Hahnemann, the father of homeopathy.

Soemmerring, neurologist.

Virchow, the father of cellular pathology.

Pasteur, French chemist, discoverer of treatment for hydrophobia, pasteurization of milk, and other advances in medicine.

Liebig, German chemist, contributor to study of nutrition.

Scheele, Swedish physiologist and pharmacologist.

Koch, discoverer of tubercle bacillus.

Ehrlich-Hata, discoverer of a Slvarsan.

Roentgen, discoverer of x-ray.

Billroth, Austrian surgeon.

Bergman, German surgeon.

Bouchard, French surgeon.

Felizet, French surgeon.

Pinard, French obstetrician.

Freud, father of psychoanalysis.



Fig. 8. Both sides of a Victor Hugo medallion. Hugo was childhood's great friend.

Neuburger, medical historian.

Billard, French pediatrist and pathologist.

Von Behring, discoverer of anti-toxip.

Hufeland, German internist and pediatrician.

Beaumont, American physician, first to study digestion in the living.

Jacobi, father of American pediatrics.

Senn, Chicago surgeon.

Among the men of science are:

Copernicus and *Galileo,* astronomers.

Newton, physicist.

Von Humboldt, physicist and zoologist.

Darwin, naturalist.

Linné, botanist and physician.

Fabre, entomologist.

In the second group, *Literature and Philosophy,* are found the literateurs, *Dante, Shakespeare, Moliere, Rousseau, Hugo, Grillparzer, Goethe, Schiller, Heine, Hauptmann, Ibsen* and *Tolstoy,* and the philosophers, *Socrates, Kant, Neitzche* and *Diderot.*

In the third group, among *Motifs of Child Life,* are numerous medallions depicting the various phases of child life, child welfare, the stages in the physical and mental development of the child, the child and the mother, the joys of childhood. In this series are also some anodyne amulets which were used as charms to ease teething and to cure worms.

Among the *Miscellaneous Subjects* are found medallions of men like Rembrandt, Mozart, Pestalozzi, Gutenburg and Columbus.

The many interesting medallions in this collection are more than ornamental pieces of bronze and silver. Dr. Levinson has made a scientific study of them from a historical standpoint and as such he has found them illuminating documents of human progress.

RUPTURE OF SPINATI TENDONS AND CAPSULE, REPAIRED BY A NEW OPERATION

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Apparently this is the first reported case of rupture of the spinati tendons and capsule that has been diagnosed and operated on promptly after injury.

Case 1. Peter C., aged 56 years, blacksmith, robust, family and personal history negative. Patient stated that while starting downstairs, he made a misstep, threw up his arms to regain his balance, and felt a cutting pain in the antero-lateral part of the right shoulder. As there was no pain after the accident, but only a slight discomfort without noticeable swelling or discoloration, no attention was paid to the shoulder. How-

ever, the next day, the shoulder became tired easily, and ached more or less. Finding it painful to use the hammer with the arm abducted in the customary position, the patient found it more comfortable to hold the arm snugly to his side while at work. He also found that he had lost considerable control over his hammer so that he could not strike within several inches of the place intended. The shoulder joint felt insecure, and seemed to jump about when patient used his arm or forearm. He could write with difficulty, and then only for a short time because of the onset of pain. The second night after the accident, he was awakened with pain. Accordingly, the next two days the shoulder was rested with considerable relief. Patient then worked a day, saving his shoulder as much as possible only to have a return of pain at night. At the end of ten days, shoulder was decidedly worse than after the first twenty-four or forty-eight hours. At this time, he consulted the writer for relief from the pain and disability.

Examination: The right shoulder measurements were less than those of the left. The supra and infraspinatus fossae were noticeably deeper than those of the left. The upper right arm and shoulder looked smaller than the other, although the patient was right handed. With the arms hanging against the sides, the abduction power of the right arm was about 40% less than that of the left arm. As abduction of both arms neared the horizontal, the right arm began to lag, and was finally voluntarily raised to the side of the head by rotation from the coronal plane to the sagittal plane. There was some pain in the shoulder, generally as the arm passed from near the horizontal (80 degrees to about 130 degrees) after which pain disappeared. External rotation of the arm was slightly limited, at times a little painful. The external rotation power was diminished (roughly 40%) from that of the left. There was no consistent tender area or spot, except that some of the time it was tender to pressure over the head of the humerus, a little (¾" to 1½") below the acromion, and mostly mesial to the bicipital groove. However, the area of tenderness, which was never very much, shifted about directly below the tip of the acromion, and even at times it was found more posteriorly. Comparison of the contraction of the spinati muscles on the two sides gave no palpable contraction on the right, either for the supra or infraspinatus, while on the left side contractions were well marked.

Diagnosis: My test for rupture of the supraspinatus is to rest the shoulder of the patient on a crutch, or high comfortable chairback so that the shoulder is elevated 2" or 3" and the trapezius is thus relaxed. The patient is asked to abduct the dependent arm from the side a number of times, with the examiner's palpating fingers resting on the relaxed trapezius directly over the supraspinatus muscle. If the tendon is ruptured there will be an absence of palpable contraction of the supraspinatus muscle on the affected side. The infraspinatus can be felt (even seen in most cases) without special position of the shoulder. In this case, there was, as usual, below the acromion marked crepitus which amounted to a crunching sensation as the greater tuberosity approached and finally passed under the acromium. Not infrequently a snapping or crepitant sound is heard by the patient and others present at the examination. A diagnosis of rupture of the supraspinatus (incomplete) was made because of the 60% power of arm abduction present. But, at the operation, the tendons of both the supra and infraspinatus muscles along with the capsule, were found completely ruptured and retracted under the acromion 2" distant from the original line of attachment. The subacromial bursa bottom was torn out, and retracted along with the capsule and tendons. The shoulder joint had a opening 2" by 2¼" into the subacromial bursa.

Operation: A long, curved incision is used, extending from a point 1" posterior to the scapular spine which is crossed 3" mesial to the tip of the acromion, the incision being passed forward and down the anterolateral aspect of the shoulder to the middle of the deltoid. The fibers of the deltoid are separated (not cut, thus avoiding nerve injury) from the acromion down for a distance of about 2½". This exposes the subacromial bursa which is opened. If there is any rupture present it is in full view, otherwise the floor of the bursa is intact. In most recent cases, or where only a small portion of one tendon is ruptured, only the lower half of the incision is necessary, but in extensive ruptures, a wide exposure is often required. This is done by cutting through the acromion ½" posterior to the acromio-clavicular joint, the cut being made with an osteotome driven from without, mesially. Next, the spine is cut from above, down and out to just above the floor of the fossae of the scapula. After this is accomplished, the flap is turned back, thus giving ample exposure. Any tags in the tear are trimmed, a groove is cut at the base of the greater tuberosity extending along the anatomical neck as far as needed. Five to seven drill holes are passed through the base of the greater tuberosity from without emerging in the groove. Next an interrupted mattress suture of strong linen is passed through the first hole from without, then through the ruptured tendon and back through the second hole. Another mattress suture is similarly passed through hole two, then through the ruptured tendon and back through hole three and so on till the repair is complete. After all sutures are placed, the arm is elevated and maintained to relieve suture tension. The sutures are then tied, the acromial flap turned into place, held with chromic sutures and the skin closed without drainage. The case here reported used a light airplane aluminum plaster support ten days, then the support of a pillow in a sling for ten days more, after which the patient was encouraged to use the arm.

Result: The operation relieved the shoulder pain at once. The patient was using the shoulder for small tasks three weeks after the operation, and was doing almost full work in the blacksmith shop after six weeks. Now, seven weeks after the operation, there is no pain but still a little stiffness which bids fair to decrease

and give a complete range of motion and full function within a short time.

Early diagnoses of rupture of the capsule with more or less extensive rupture of one or both spinati tendons is being generally overlooked. When these injuries are promptly diagnosed and repaired, old, stiff and painful shoulders will be comparatively rare.

St. Francis Hospital.

CHRONIC SEMINAL VESICULITIS*

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The purpose of this paper is to emphasize again the importance of the seminal vesicles in chronic gonorrhea and chronic pelvic infection in the male. We wish to call attention also to some of the symptoms usually ascribed to the prostate gland when, in fact, the seminal vesicles are chiefly involved.

Very little can be said which has not already been well presented in various textbooks and articles upon this subject. Guiteras, in his textbook published twenty years ago, covered the subject quite fully. We will, however, mention briefly some of the important points.

Inflammations of the seminal vesicles are practically always associated with involvement of the prostate, so that the term prostato-vesiculitis more correctly presents the pathology present. Cunningham, in his chapter in Lewis' "Surgery" entitled Prostato-Vesiculitis, reports operative and biopsy observations of over 400 operations in which vesiculectomy or vesiculotomy were performed, in most of the cases associated with prostatotomy. These were operations for relief of chronic prostato-vesiculitis in which the seminal vesicles were found to be chiefly involved, together with some associated prostatitis. These and many other observations show the seminal vesicles as the chief offenders in what is commonly termed chronic prostatitis.

Some authorities are of the opinion that seminal vesiculitis is a very infrequent complication of gonorrhea. Pelouze, in his textbook on "Gonorrhea," states that it occurs in only 2 per cent. of cases. It is difficult to understand how this statement and similar ones, as to the rarity of seminal vesiculitis, can bear careful analysis. The well known greater incidence of epididymitis as a complication of gonorrhea is one of the many evidences of the frequency of vesiculitis in gonorrhea. Epididymitis, when it occurs is always a sequel of vesiculitis.

The author is of the belief that gonorrhea is an entity; that, although beginning in the anterior urethra, it consists in practically all cases of anterior and posterior urethritis, plus a mild prostato-vesiculitis and that, therefore, the incidence of seminal vesiculitis is high.

The vast majority of cases of gonorrhea clear up within the usual period of time,—five to six weeks,—that gonorrhea persists, and with it the acute prostato-vesiculitis. However, because these structures have poor drainage, and because involvement often is discrete and in isolated areas in the vesicle and prostate, the infection may persist and become chronic.

Chronic seminal vesiculitis is the most important focus of chronicity in gonorrhea. It is, therefore, not an exaggeration to state that the eradication of gonorrhea in the male, as well as the human, depends in a large part on the sterilization of the seminal vesicles.

It has been customary to arbitrarily term gonorrhea chronic when it has persisted more than six months and we will, therefore, class those infections of the vesicles persisting six months or more as chronic.

There are other causes for chronic vesiculitis. Continued practice of coitus interruptus will frequently bring about attacks of perineal and suprapubic pain and urinary frequency with slight urethral discharge. Such patients are not rare in office practice. They may be troubled with these symptoms for many months, the condition frequently becoming chronic. Excessive coitus is also an etiologic factor.

Chronic vesiculitis is often the sole cause of "prostatism" in old men who present all symptoms of bladder neck disturbance, but show very litle or no prostatic hypertrophy by rectal examination or cystoscopy,—the so-called "prostatisme sans prostate." We know now that many of these are contractures of the bladder neck and median bars. The relationship of these symptoms to chronic vesiculitis is well borne out by the complete relief frequently obtained in the past when prostatectomy was dreaded or unknown, by the simple method of vasectomy. Those that cleared up by vasectomy were re-

*Presented before the Wisconsin Urological Society, Milwaukee, Wisconsin, December 4, 1931.

lieved of their symptoms by the retrogression of the seminal vesicles which were the cause of the urinary distress.

Epididymitis occurs in 15 to 25 per cent. of operations for prostatectomy when vasectomy has not been done as a preliminary procedure. It is evident here that the seminal vesiculitis usually associated has been activated by the operative trauma, and epididymitis, therefore results.

In order to properly visualize the pathology present, it must be considered as a chronic pelvic cellulitis, varying considerably in the extent of involvement. In the majority of cases the pathology is limited to areas in the prostate and vesicles. The process often extends so that there is usually an associated peri-prostatitis and peri-vesiculitis. In more extensive involvement the vesicles and ampulla are found adherent to the base of the bladder with an associated trigonal cystitis and a chronic inflammation of the bladder neck, the latter not infrequently resulting in some degree of bladder neck contracture.

There is usually an associated chronic posterior urethritis with an involvement of the veru montanum and utricle. The ejaculatory ducts, which are normally rigid structures and but poor drainage for the vesicles, undergo inflammatory changes. Strictures of the ejaculatory ducts are often present.

Chronic posterior urethritis *per se* is seldom present. It is nearly always an associated finding in chronic inflammation of the prostate and vesicles. The prostate due to the peri-prostatitis, becomes adherent to the rectum, accounting in a large manner for the irritation in rectum and anus and for the fullness in the perineum.

The symptoms are variously classified. The usual array of symptoms in the milder forms of chronic prostato-vesiculitis are perineal discomfort, some suprapubic distress, occasional irritation in the rectum and a morning discharge. This gleety discharge is usually present at the meatus only, so that the first glass is cloudy and the others clear. The glass tests, which are of considerable value in acute gonorrhea, are usually of little diagnostic significance in chronic infections.

Backache is also a frequent symptom. Backache in the male is always an indication for a rectal examination, for in a large percentage of cases it is due to a chronic prostato-vesiculitis. Pain along the iliac spines, which is frequently present, has often been mistaken for sacro-iliac disease.

Recurrent epididymitis is always an indication of a chronic vesiculitis which very often has been latent.

Some patients have a chronic urethral discharge, occasional cloudy urine but present no other symptoms.

Urinary symptoms are usually present. Some burning on urination, the pain often radiating to the rectum and deep perineum, is common. One of the most common symptoms is pain referred to the glans penis or around the corona. This is referred pain from the prostate or vesicles.

Phosphaturia is frequently noted. This is due to the precipitation of the phosphates in the urine by the alkaline secretion of the prostate and vesicles. It is well to remember that not all phosphaturia is renal or metabolic in origin.

The metastatic complications, upper urinary tract involvement and the neurasthenic symptoms will not be discussed here.

The diagnosis is made by the finger in the rectum and the examination of the expressed secretion. An induration can usually be felt in the angle above the prostate on one or both sides. The expressed secretion shows muco-pus, "rubbish," as Belfield termed it, usually consisting of incrustations in the wall of the vesicles. In some cases the diagnosis is more difficult. The vesicles may have undergone atrophic changes and others may be matted to the prostate, so that they cannot be distinguished from the prostatitis present. For palpation and massage of the vesicles, the knee-chest position with the patient on the table is best.

Most of the cases respond favorably to massage properly administered. It is surprising to note how frequently patients who have been treated, in many cases even by urologists, have received but light massage of the prostate only. Internal medication is of no value except for the relief of acute symptoms. Occasional hot Sitz baths give relief for the perineal pain and urinary distress. Diathermy is of some value in chronic prostato-vesiculitis. Those who do considerable work with diathermy find it of much value.

The injection of the seminal vesicles with an

antiseptic by way of the vas deferens has a distinct place in the treatment. If the urine persists in being cloudy and gonococci occasionally reappear in the discharge during the intervals of flare-up, vasotomy is indicated, if massage has already been carried on for three months or more. Recurrent epididymitis is also an indication for vasotomy. Five per cent. collargol is the only reliable antiseptic to employ.

With proper indications and proper antiseptic, vasotomy will cure most of these cases.

Vesiculotomy and vesiculectomy are a measure of last resort for intractable cases with continued pain, urinary distress and metastatic manifestations that have persisted for a year or more and which have not responded to all other therapy.

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FIBROLIPOMATOSIS OF THE KIDNEY* A REPORT OF A CASE

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and
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Renal lipomatosis, or the replacement of kidney parenchyma by true adipose tissue, is an interesting pathological phenomenon. That it is extremely rare is shown by the fact that Kutzmann, after a most thorough search of the literature, was able to find (including his own case) only 33 well-established instances of the condition on record. Because of the rare occurrence of this condition, we wish to place the following case on record.

CASE REPORT

K. B., female, married, aged 59 years, referred by Dr. Grover Harris, Marshalltown, Iowa. Admitted to the Presbyterian Hospital, May 9, 1928.

Present Complaint. Upon admission to the hospital, the patient suffered from intermittent pain in the left side above the crest of the ileum and a discharging sinus in the region of the left kidney.

Onset and Course. Illness began 25 years ago with an attack of severe pain in the back over the left kidney area. During the attack blood was noted in the urine; afterwards, off and on, more or less soreness has been experienced in the left side and it is difficult for the patient to lie on that side. About eleven years before admission to the hospital she had an irresistible desire to void and shortly afterwards two long stones were passed. In July, 1927, a swelling developed over the region of the left kidney. This began without pain and was not accompanied by fever as far as the patient could tell. The size of the swelling varied within a space of twelve hours. An incision was made elsewhere and a large amount of pus was discharged. The wound never healed and is discharging at the present time. There are no urinary symptoms present.

Physical Examination. Pupils, equal and react to light and accommodation. Slight retraction of gums at margin of teeth. Thyroid, normal, the isthmus seemingly larger than normal. Slight cervical adenopathy. Heart and lungs, negative.

Examination of the Abdomen. A palpable mass, tender to the touch, in the region of the left kidney. The opening of a sinus in the margin of the eleventh rib, in the posterior axillary line. Further examination, negative.

Examination of Urine. Albumin ++, blood ++, and 12,500 pus cells per cu. mm.

Blood Examination. Red cells 3,720,000
Leucocytes 10,300
Hemoglobin 65%

Blood Pressure. Systolic 142, diastolic 64.

Blood Chemistry.

Urea Nitrogen	14.3
Uric Acid	4.0
Non-Protein Nitrogen	35.3
Creatinin	1.5

Wassermann Test. Negative.

Roentgen-Ray Examination. A laminated shadow in the region of the second lumbar vertebra on the left side due to renal stone. Several small rounded densities scattered over the kidney area were noted.

Cystoscopic Examination. The right ureteral orifice, normal. Bulbous edema around the left ureteral orifice, The catheter, on the right side passed into the kidney pelvis without difficulty or obstruction; on the left side, it met an obstruction at about 25 cm. beyond which it could not be advanced. Urine, very foul and purulent. Examination revealed the following:

	Leucocytes per cu. mm.	Cultures
Bladder	32,600	B. Coli Communior
Right kidney	40	Sterile
Left kidney	280	Sterile

Phthalein Test. Output in 40 minutes—left side, 0. Output in 40 minutes—right side, 38%.

Pyelogram. Normal on the right side. A filling of the ureter with slight dilatation at the lower end on the left side. No fluid entered the kidney pelvis.

Staphylococcus aureus in culture of pus from the sinus.

Diagnosis. Stone in the kidney with severe infection. Operation advised.

Operation (Left Nephrectomy), (H. L. K.) May 16, 1928. A large amount of perirenal fibrosis was present. Kidney removed in several masses because it was impossible, on account of the dense perirenal scler-

*From the Presbyterian Hospital of Chicago, Rush Medical College of The University of Chicago and The A. D. Thompson Urological Fund. Read at a meeting of The Chicago Urological Society, November 25, 1931.

osis, to remove the kidney without a good deal of trauma. Stone removed.

Pathological Examination. The removed specimen consisted of several masses of fibrolipomatous tissue weighing 180 grams and also the upper part of the ureter, the lumen of which was almost obliterated. The lining of the ureter was red and granular, and some periureteral fat infiltrated with connective tissue was noted. Some areas containing granulation tissue were noted in the large pieces of fibrolipomatous tissue. In these areas some small (2 cm.) stone were firmly and deeply imbedded in the tissue. On the surface of cut sections there were some areas which looked cordlike and appeared as though they "might" be kidney parenchyma. Nowhere was there any tissue that could accurately be classed as kidney. Considerable grey-white tissue was cut through and in some of these masses there were small tunnels which may have been remnants of calyces or pelvis.

Microscopic Examination. Cross section of the mass showed it to consist of a fibrous connective tissue framework supporting a network of loose areolar tissue. The larger strands of connective tissue were considerably infiltrated with round cells and several round empty spaces were scattered throughout. The latter resembled remnants of renal tubules and a few of them contained broken down epithelial cells. Thick fibrotic walls of the blood vessels with areas of hemorrhage gave further evidence of chronic inflammation.

Between these connective tissue fibers was seen typical areolar tissue with its delicate network of fine fibrils. Such tissue constituted the greater portion of the sections. Fat stains showed these areolar spaces to be filled with typical fatty tissue.

No evidence was seen of any invasive tendency on the part of the fatty tissue, for example, compressed renal elements. The picture suggested a primary atrophy with fatty replacement.

Result. The patient made an uneventful recovery and left the hospital in good condition.

LITERATURE

The first well-described case of renal lipomatosis was reported by Rayer in 1839. He also referred to and described a case by Bricheteau. Earlier investigators were Barth and Baader, but their reports were meager.

Cruveilhier (1856) in his "Anatomie Pathologique Generale" describes fatty morphosis of the kidney and refers to the case described by Rayer.

Godard (1859) (quoted by Hartmann) wrote extensively on the subject of fatty substitution in the kidney and described a case of his own.

Heath (1858), Browne (1861) and Whipman (1867) reported cases of renal lipomatosis.

La Crampe-Loustan (1881), in an essay dealing with the subject of fatty processes in the kidney and perirenal tissues, did not differentiate between renal lipomata and substitution lipomatosis, and included as the former a number of the previously reported cases of the latter.

Rickards in 1883 described a case of renal lipomatosis which he had personally observed and in his report briefly reviewed the cases of Browne, Heath and Whipman. He furnished an excellent drawing of his specimen, with the notation that to his knowledge the condition had not been "portrayed" before, "numerous and excellent as are the illustrations of the various morbid changes in the kidney by Bright and others."

Hartmann (1885) discussed two varieties of substitution lipomatosis: one accompanying simple interstitial nephritis and a more usual variety dependent on the existence of calculous pyelitis. His own case was of the latter variety.

Rosenstein (1894) in his book on "The Pathology and Therapy of Kidney Diseases" discussed replacement lipomatosis and commented upon Godard's case.

Keenan and Archibald stated that previous to the work of Grawitz, many hypernephromata were termed large lipomata and that Selter, in 1895, reviewing these cases, found many to be examples of renal lipomatosis. Selter clearly distinguished between substitution lipomatosis and renal lipomata.

Ulrich, in 1895, published an article entitled "Uber die sogenannten echten Lipome der Nieren" in which he took the position that in most cases the so-called lipomata are mere degeneration products or a sort of substitution lipomatosis similar to fibrosis. He reported observations on five personal cases, none of which was larger than a cherry. These cases were probably true lipoma. Termed by Keenan and Archibald "degeneration lipoma of Ulrich," they are not included by reviewers as true cases of renal lipomatosis.

Other cases of renal lipomatosis were published by Morris (1908), Israel (2 cases, 1913), Furniss (1913), Hillman (1924), Bacon and Le Count (2 cases, 1928) and Gimpelson (2 cases, 1929). This latter author found 18 cases of renal lipomatosis in the literature in addition to the two which he reported.

In 1931 Kutzman published a most thorough discussion and review of the literature. He found 32 well-established cases of renal lipomatosis and added 1 case of his own.

In our study we have found a case reported by

Spurr which, with the addition of our own case, brings the total number to 35.

Etiology. Until the nature of the pathological process which causes renal lipomatosis is explained in a satisfactory manner, an exact statement as to the etiology of the condition cannot be made. However, that calculous disease is a very prominent predisposing factor is acknowledged by all writers on the subject. Kutzmann finds that calculi were present in 26 (71%) of the 33 cases which he studied. Calculous disease was also present in our case and also in Spurr's; hence, we may say that stones were present in 28 out of 35 cases of renal lipomatosis mentioned in the literature.

Rickards notes that in cases similar to Whipham's, in which no stone was found in the specimen, a stone may have been present originally but has been passed from the kidney.

Morris reports that his case of renal lipomatosis was uncomplicated by stones and that the microscopic examination of the replaced parenchyma showed chronic interstitial nephritis.

Lower and Belcher state that replacement lipomatosis of the kidney may be secondary to calculi, tuberculosis or operative trauma. The reference in their report to operative trauma as a causative factor is based on the report of Masson and Horgan who, in studying a series of retroperitoneal lipomata seen at the Mayo Clinic, found that two of them arose from the perinephric fat following an exploration of the kidney for stones and removal of the kidney.

In regard to the importance of the presence of calculi in relation to renal lipomatosis we may state that in two examples in the literature of the bilateral existence of the condition (Rayer, Griffon) calculi were present in both kidneys. In Bauchet's case lipomatosis was seen in one kidney but stones were present in both kidneys.

The conclusion to be drawn from a study of the literature is that the condition does not favor the right or left kidney, but occurs with equal frequency in one or the other.

There is no evidence to show that sex is of any importance as an etiological factor in the disease.

It would appear that the period between fifty and sixty years is the age of most frequent occurrence. The youngest case on record is Browne's (ten years), while the oldest is Furniss's (sixty-seven years).

Pathology. As noted by all observers of the subject, the pathological process responsible for renal lipomatosis has never been definitely established, although the opinions and explanations regarding it have been numerous and varied.

A minority of the writers on the subject are of the opinion that the primary growth of lipomatosis tissue starts from the fatty capsule, while at the same time the hilus fat forces its way into the kidney. Rokitansky held this view, and he believed that continued mild inflammation might lead to a proliferation of perirenal fat that might increase to such an extent as to force its way into a hilus of the organ. When this condition has advanced to its highest state, Rokitansky states that the kidney presents the appearance of a mere piece of fat, surrounded by a mass of adipose tissue.

The explanation offered by Israel falls into the same group as that of Rokitansky. According to Israel's theory, the process originates in a hyperplasia of the fatty tissues surrounding the kidney, the hyperplasia being initiated by the irritation resulting from a chronic inflammatory process in the kidney (most often calculous disease), the adipose tissue pushing its way through the hilus.

The majority of the authors, on the other hand, concur in the opinion that the fat substitution in renal lipomatosis is of secondary character, atrophy being the factor of primary importance. We feel that this stand is well taken in view of the fact that kidneys may be subjected to an enormous amount of pressure from the outside, as seen in cases of retroperitoneal tumors, without any marked destruction or atrophy of the parenchyma.

Gimpelson is among the authors who consider that the lipomatosis is a secondary process and terms it an example of "hyperplasis-exvacuo" as seen in fatty substitution in atrophic thyroids and diseased lymph nodes. This process he regards as an effort of the organ to maintain its weight balance.

Kutzmann is of the opinion that the source of fat of renal lipomatosis is probably not from a degeneration or metaplasia but from an external source. He also states that calculous disease is the primary and initial factor in replacement lipomatosis in the kidney. This condition may compress and destroy the parenchyma by infection.

Moreover, it has been frequently observed that the peripelvic fat shows a hyperplastic tendency in cases of long standing infection, notably tuberculosis. The already hyperplastic peripelvic fat, due to the presence of the calculi and the chronicity of the infection, may take on invasive powers and enter the renal hilus along the vessels. This invading adipose tissue may act, in addition to the calculi and infection, as a blind factor in the destruction or atrophy of the already damaged parenchyma.

Bacon and Le Count state that they have found no explanation by others and have none to suggest to explain the relative rarity of adipose kidneys. They think that it is reasonable to regard the invasion of adipose tissue as a compensatory replacement rather than an ingrowth which causes disappearance of the renal parenchyma. Their argument is, that as the medullary pyramids, columns of Bertini, and cortex are destroyed by pressure atrophy, the fat takes their place, growing in and about the blood vessels. In none of the reported cases of renal lipomatosis, they continue, has there been an abnormality noted, except in Heath's case, where no renal artery, vein or ureter was found.

Description of Pathological Types of Fat in Kidneys with Definition of Renal Lipomatosis. In a discussion of renal lipomatosis distinction must be carefully drawn between that condition and lipoma of the kidney. Renal lipomata, like true lipomata elsewhere in the body, are a distinctly neoplastic process. They are usually small, seldom larger than the size of a cherry. They usually possess a fibrous tissue capsule and result from fatty tissue included in the kidney in embryonic life. Very rarely do they occasion symptoms, the majority of cases being reported as incidental findings.

Renal lipomata are in the majority of cases benign, although Keenan and Archibald mention a lipo-myo-sarcoma reported by Mueller.

Nicholson and Gillespie, in a recent review of the literature pertaining to this subject of lipomata of the kidney, find that only 4 of these tumors, in addition to their own, have necessitated operative removal. They find few instances of renal lipomata of appreciable size. These consist of fibrolipomata as reported by Warthin, and Lower and Belcher; myolipomata, according to Bartsch and Keenan and Archibald; and an angiolipoma, in the opinion of Grawitz. The tumors just mentioned, it should be noted, had other neoplastic elements besides adipose tissue.

Renal lipomatosis is a replacement of the renal parenchyma by adipose tissue and follows in the wake of inflammatory changes in the kidney. Bacon and Le Count note that similar changes occur not uncommonly in various diseased viscera and skeletal muscle, a condition which the German writers sometimes mention as "Vacat-Wucherung." Matsuka describes similar changes in lymph nodes which have been destroyed by disease processes and states that he has often observed them in the submucous fibrous tissue in cases of sclerosing appendicitis.

True lipomatosis may be regarded as an attempt at healing by second intention and is entirely analogous to fibrosis which so commonly follows a destruction of the parenchyma.

Symptoms. There are no signs nor symptoms which are pathognomic of renal lipomatosis, nor which would suggest the possible existence of the condition. All authors agree that the clinical picture is that of renal infection, renal or ureteral calculi, or both.

Gimpelson notes that no case of replacement lipomatosis of the kidney has ever been recognized clinically, and remarks in this respect that the condition is not a disease in itself.

That renal lipomatosis may exist without symptoms is well demonstrated in Godard's case (quoted by Rosenstein) where the condition was discovered at autopsy on a suicide who had been perfectly well at the time he took his life. This case was unilateral and associated with a calculus.

Bacon and Le Count state that usually in cases of renal lipomatosis a calculus obstructs the ureter, and pyelitis, hydronephrosis or renal stone may be demonstrated clinically. They add that the unilateral disease may not cause any symptoms and that the condition may be discovered incidentally after death has been due to disease elsewhere in the body.

Diagnosis. The diagnosis of lipomatosis of the kidney is established either at autopsy or upon examination of the kidney after surgical extirpation.

Israel (1901) noted the first case of renal lipomatosis in a surgical specimen; the previous cases having been discovered post-mortem. Since that time the diagnosis of the majority of the

reported cases have been established after nephrectomy.

Upon examination of the gross specimen, renal lipoma is the condition which is most likely to be confused with replacement lipomatosis of the kidney, although to the careful observer the two conditions present few points of similarity. As we have already noted, renal lipomata are usually small, encapsulated, and limited to the cortex. They are frequently subcapsular, distending the capsule. They are for the most part incidental findings and do not seem to bear a direct relationship to infection or destructive processes in the kidney. In Lazarus-Barlow's case and in other cases no other abnormality of the kidney other than the tumor was noted.

In lipomatosis of the kidney the general contour of the organ is usually preserved. On section some general resemblance to the normal configuration is seen, although the parenchyma is replaced by adipose tissue and the pelvis occupied by a mass of fat. Almost always a calculus is seen imbedded in the fat, pocketed in a pus sac in the ureter or pelvis. Aside from the replacement of parenchyma by fat, the picture is likely to be that of an ordinary pyonephrosis or calculous pyelitis. In most of the cases the capsule has been preserved and in many there has been a small compressed rim of kidney tissue under the capsule.

Nicholson and Gillespie state that large perirenal lipomatosis tumors, as reported by Salzar, Eiselberg, Holmes, Cantoni and Samuels, may sometimes be confused with fatty processes within the kidney.

On rare occasions a differential diagnosis between the myelin kidney and renal lipomatosis may be necessary.

Keenan and Archibald call attention to the fact that, previous to the work of Grawitz on hypernephroma, many of these tumors were classified as renal lipomata. They list hypernephromata among conditions to be differentiated from fatty processes in the kidney. Today the gross appearance of the hypernephroma is so well known that, in spite of its yellowish color, the possibility of its being confused with any type of fat deposit is out of the question.

The microscope is of little aid in the diagnosis of renal lipomatosis; it merely serves to confirm the findings made from the gross appearance. Histologically, the specimen shows ordinary adipose tissues replacing the parenchyma and varying degrees of inflammatory elements.

Prognosis. Since renal lipomatosis is a replacement of the parenchyma, the prognosis is entirely dependent on the amount and condition of the remaining secreting tissue. When the fatty changes are bilateral, or infection and calculous disease are present on both sides, the prognosis is not so favorable as in those cases in which the tests show that the second kidney functions in a satisfactory manner, is uninfected, and is free from calculi.

In the majority of cases which have been diagnosed at autopsy, death has occurred with uremic symptoms. On the other hand, in the cases which have been diagnosed after surgical extirpation the patients have made good recoveries.

When the disease processes are limited to one kidney and surgery is practiced early, avoiding infection of the other kidney, the prognosis is good.

Treatment. Theoretically, the condition of renal lipomatosis in itself should require no treatment. Practically, however, since lipomatosis is almost always accompanied by calculus disease, infection, or both, nephrectomy is indicated.

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THE CONSERVATIVE USE OF "RADIUM PUNCTURE"

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The other day W. J. Mayo said, "One can do a million dollars worth of harm with a nickel's worth of radium."

The belief is prevalent that physicians, learned and competent in other fields but knowing little about radium, are being exploited at the present time by commercial radium agencies. The rental of radium tubes and the sale of radon "seeds," now being widely promoted, would be impossible if physicians were thoroughly familiar with this complex subject.

There lies before us a pamphlet published in another city with a pictorial representation of radium emanation (radon) "seeds" implanted in cancer of various organs. Specious arguments accompany the illustrations. Quoting from the pamphlet: "Think of the advantage you would enjoy by having the counsel and cooperation of a group of radium therapists when you have occasion to consider treatment for a malignant case—the value of having radium emanation specially prepared for each case, so that its application could be carried out according to methods developed and sponsored by the world's ablest radium therapists; methods which you yourself can safely employ."

When life is at stake, it seems a bit heartless to stress the "advantages" accruing to the *physician* instead of the *patient,* from the use of a certain type of cancer therapy which is still in its infancy. Even in the hands of the most expert surgeon or radium therapeutist, failure to cure cancer is unfortunately extremely common. What can be expected when one who knows little about cancer and less about radium undertakes the job? For the fact remains that, in spite of considerable progress, the radium treatment of cancer is a difficult method which varies in its efficacy.

Surgery is still our sheet anchor in the majority of cancer cases. Radium is the "handmaiden of surgery."

"The literature dealing with the radio therapy of cancer is extensive yet confusing and contradictory.

"This is partly due to the fact that this method has hardly advanced beyond the experimental stage, that it is used in the treatment of an extremely difficult problem, and that a diversified and broad technical training is presupposed in dealing with this subject." (Lacassagne).

There is, for example, a good deal of misapprehension about the indications for implantation of radon "seeds."

We believe radon "seeds" should be implanted with extreme caution and only after the most careful consideration of the location and size of the growth, its pathologic type as revealed by biopsy, and the probable outcome of the treatment. If a tumor is small, i. e., not over a few centimeters in diameter, accessible, well localized, surrounded by tissues capable of forming good granulations, not too near bone, large vessels or nerves, it may sometimes be cured by the implantation method. Preliminary irradiation

should routinely be carried out by applying 1000 mc. to the surface of the lesion.

In the presence of metastases, which are frequently present but often escape detection especially in mucous membrane cancer, radon seeds should not ordinarily be implanted.

Among locations that should not be routinely implanted are the skin, lips, floor of the mouth, soft palate, mucous membrane of the jaws or hard palate, the breast, axillary or other lymph nodes, hollow viscera, cervix and parametria.

Exceptions to these contraindications may of course occur.

No type of case should be implanted which experience has shown may be treated successfully by radium applied to the surface. The dangers of infection, traumatism and metastasis are all too little appreciated by the physician who seldom sees cancer.

Let us take, e. g., cancer of the lower lip.

In some quarters this is being routinely implanted with radon seeds. As a matter of fact, cancer in this situation may be removed surgically with excellent results. There is of course some "deformity which may be disturbing." (B. J. Lee.)

The complete removal of the growth surgically affords opportunity for study of the pathologic type of growth which has such an important bearing on the question of surgical removal of the lymph nodes of the neck as well as on the prognosis.

At the Memorial Hospital, New York, the lip is treated routinely by radium applied to the surface of the growth, a procedure which has the advantage of producing little or no deformity.

We advocate this latter procedure in ordinary cases together with conservative surgery of the lymph nodes.

We are opposed to routine implantation of the lip because of the unavoidable traumatism, danger of causing metastasis, pain and subsequent deformity.

Thoughtful consideration of these possibilities would result, we believe, in implantation of the lip in rare and selected cases only.

At the Curie Institute in Paris, the implantation method was formerly the commonest method of treatment.

With increasing supplies of radium, the frequency of use of "radium puncture" has decreased.

At the Curie Institute, the implantation method is now reserved exclusively for cancer of the tongue, buccal mucosa, vulva and small exuberating cancers of the skin.

From a prognostic standpoint, cancer cases fall into 2 groups—those in which recovery is probable and those in which it is not. One should seldom if ever implant cancer when recovery is improbable, i. e., when the destruction of every cancer cell is unlikely. In other articles, we have pointed out the uncertainties in the use of commercial gold ampules which are alleged to contain a certain amount of radon. As a matter of fact, it is absolutely essential that each ampule be tested with the electroscope several times just prior to its use in order to be sure that no leaks—slow or fast—have developed. It may not be generally known that gold ampules, although very minute, are sealed by a process of cold welding, i. e., by pinching the ends together with forceps in the laboratory. If the sealing is not perfect, as frequently happens, the radon leaks out and the ampule quickly becomes inert.

We ourselves have given up the use of gold ampules because of the occasional neuralgic pain, persisting almost indefinitely, following their permanent insertion into the tissues.

Sometime ago we made a search for a metal substitute for gold and finally devised lead-antimony ampules. As a description of these ampules has been published[1] very recently we will omit further comment at this time. In our hands, lead ampules containing radon have superseded all other types of radium or radon needles but we reserve this method for very carefully selected cases of accessible cancer which for various reasons cannot be removed by surgery or treated successfully by surface applications of radium.

It requires long experience and some knowledge of radium to select the cases most suitable for the implantation method.

It finds one of its greatest fields at the present time in the treatment of tongue cancer.

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THE COMMERCIAL ROENTGEN LABORATORY—SOME GOOD REASONS WHY THEY SHOULD NOT BE TOLERATED OR PATRONIZED

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The writer has been in practice as a radiologist for many years and has seen the growth and development of this important medical specialty from its inception to its present high status, and therefore feels as though he has a right to call the attention of his fellow physicians to the commercial roentgen laboratory and why this institution should not be tolerated or patronized by high minded ethical physicians.

While the ranks of radiology have been invaded by a few poorly and inadequately prepared physicians, we do not think that this has been the case any more than it has been in many of the other specialties of the healing art. But, different from any others of the medical specialties, lay persons, without any medical training, who have learned the technical side of radiology while in the employ of physicians or in schools for that purpose, have purchased x-ray apparatus and with the aid of a few medical friends have established themselves, and opened so-called x-ray laboratories. In a few instances these same untrained individuals have managed to secure appointment as radiologists in otherwise reputable hospitals and have there acquired a clientele.

Roentgenologists have for years been calling the attention of the medical profession to the dangers and the wrong of permitting x-ray technicians to make diagnoses and administer roentgen therapy. True, much of this has been done in a half-hearted and desultory manner and naturally their arguments have been received in much the same manner by the balance of the profession. The subject has not had the attention that it deserves and the objections presented, while based upon good and amply sufficient reasons and usually well presented, has too often fallen upon deaf ears, and little or no attention was paid to much of it.

I have discussed this subject for upwards of twenty years and from several different angles. I have been on the sidelines all this time and while many changes and improvements have occurred in medical practices during this period, I am sorry to say that there are today more lay x-ray technicians practicing medicine by conducting unethical commercial laboratories, than there has ever been, and consequently there are more erroneous and deficient diagnoses made in the x-ray line than ever before.

With all this staring us in the face, I still keep my tongue wagging and my pen actively engaged in the warfare against what I consider a great wrong and a menacing evil. I do this because it has always seemed to me that *no person without proper medical education and adequate knowledge of medicine should be permitted to diagnose and treat human ills.*

Without a knowledge of physics, anatomy, physiology, pathology and the branches which go to make up the basic medical sciences, no person is capable of learning—much less know—anything about diagnosis. These subjects as taught in medical and premedical courses are necessary for anything like a comprehensive study and knowledge of diagnosis, and without this all necessary knowledge of diagnosis, an x-ray laboratory has no excuse, except to make a living for the owner.

But what is worse than this woeful lack of diagnostic knowledge, is the brazen shamelessness and effrontery with which some of these technicians presume to administer x-ray therapy.

A knowledge of the entire medical curriculum is essential for the proper and intelligent administration of roentgen therapy. *Without this knowledge no one is properly fitted to administer any kind of therapy, and least of all roentgen therapy.* It does not require much discernment and it is consequently readily recognized, that any remedial agent or measure that is potent and powerful enough to affect such great changes is potent and powerful enough to do enormous damage if improperly and inefficiently applied. This holds true of every therapeutic measure used in the treatment of disease and it is most true of the application of the roentgen rays.

No intelligent person—or even the most ignorant—would consider for a moment permitting a nurse or technician to treat a toxic thyroid gland, a fibroid uterus or a rodent ulcer by surgical methods; but that is exactly what physicians are doing. They are daily allowing lay x-ray technicians to treat these conditions, without the advice or co-operation of any one who

knows anything about the effect and dangers in the treatment.

It is universally admitted and recognized that more than the ordinary knowledge of medicine is necessary for any physician to treat the conditions just named, by surgical methods, properly and intelligently. We insist and are ready to prove that it requires more than the average knowledge of medicine to properly treat the same conditions by radiation.

Errors due to lack of judgment or knowledge in the application of the x-rays, either in diagnostic or therapeutic application, are liable to produce as serious and damaging results as are the same degree of lack of judgment and knowledge in the application of surgery.

Sensible, thinking and conscientious physicians must concede the truth of all the foregoing arguments, even though they might not follow the practical application of it.

At this time I have an entirely new and not heretofore advocated argument in favor of exclusion of the lay or commercial laboratory. This new and original argument will touch the purses and reputations of physicians who persist in sending their patient to the layman to practice medicine upon. Give your undivided attention to the following.

It is a universally recognized legal axiom, that "The principal is responsible for the acts of his agent," and consequently any wrongful acts of the agent are chargeable to and must be paid for —in law—by the principal.

Assuming that a physician habitually and regularly allows his office technician to administer some (any) form of therapy to patients. The therapy may consist of baths, massage, ultraviolet light, or x-rays; but no matter what it is, if the patient so treated is injured during or as the result of this treatment, *the physician is legally liable for the injury, because the technician is acting as his agent.*

As the physician's employee, the technician has no lawful right to administer the treatment —as that would be practicing medicine—but when this same technician administers the treatments as the agent of the physician, *the responsibility is entirely on the principal, the physician.* The foregoing is not guess work, but has been proven before courts and juries all over this country and there are numerous Supreme Court decisions confirming the decisions of the lower courts.

Furthermore, it makes no difference whether the principal—in this case the physician—is present or not, whether he is absent or not, at the time of the administration of the treatment, whether there were any specific instructions or directions regarding that particular treatment; or whether the technician administered the treatment according to the instructions or diametrically opposite to them. There are numerous legally recognized decisions, which specifically state that the mere fact that the physician was absent or that he did not specifically authorize the particular treatment that caused the damage or injury, or that the treatment was administered contrary to instructions, *is immaterial.* The fact that his agent administered the treatment, makes the physician responsible and none of these subsidiary claims can in any way affect or modify the interpretation of recognized axiom "The principal is responsible for the acts of his agent," and *the physician (the principal) is responsible.*

Aside from this legal responsibility, there is another and rather important angle to this entrusting of medical and surgical duties and acts to unlicensed technicians, by legally licensed and otherwise qualified physicians. *Several states have specifically denied the legal right of licensed physicians to aid and abet unlicensed persons to practice medicine.*

I understand that the licensing boards of California, Colorado, New York, Pennsylvania and recently *Illinois,* have revoked the licenses of physicians, for aiding unlicensed persons to practice medicine, and that they have in all these states been upheld in such action by the Supreme Courts in the States mentioned. *The Bureau of Registration and Education of Illinois, in December, 1931, revoked the license of an Illinois physician for a similar act.* With precedents such as these, it is *altogether likely that other state licensing boards will follow suit.*

Technicians and other non-medical helpers and assistants who may not of their own right legally practice medicine, occasion far greater risks and legal responsibilities to physicians, under the relationship of principal and agent than do registered nurses. This is because the latter group have a legal standing, while the technicians who are not nurses have no standing of any

kind in the eyes of the law. Because of this lack of legal standing, they have no right whatever to perform acts or assume the duties of nurses in performing certain acts which, while actually belonging to the duties of physicians, we of the medical profession are in the habit of allowing them to do. Consequently, when these technicians are acting in the capacity of helpers, assistants, etc., or in any other capacity which might be interpreted or construed as coming within the practice of medicine, they *must* come under the category of agent for the physician for whom they perform or act, and the physician so employing them *must* act in the capacity of principal, thereby assuming the entire legal responsibility as such principal, for the acts and deeds of his agent.

Now then, reasoning from the foregoing, how many physicians are there reading these lines, who are ready to assume the relation of principal and agent with the technician who conducts the x-ray laboratory where he sends his patients who have ambulatory fractures, or his inoperable or unoperable toxic goiters for treatment?

How many of you good doctors are willing to assume the responsibility and become entangled in the relationship of principal and agent with every Thomas, Richard or Henry who has just sufficient money to make a first payment on an outfit of x-ray apparatus, and who may shock or injure the next patient you send him or produce a damaging roentgen dermatitis and make you liable? *Are you ready and willing to do this,* when you realize that with you as principal and he as agent *you are responsible for his acts?*

If you are the physicians that I think you are, I can see you shake your heads in vigorous negation and hear you say, "Never again. I had no idea that I was doing that."

There are competent medical radiologists in nearly every community in this country, so that there is no good reason why laymen should be using the x-rays in any capacity than as technicians. X-ray diagnosis and therapy by lay technicians, should not be countenanced any more that should the performance of major surgical operations by the same individuals, and it is high time that honorable and reputable physicians cease referring patients to these commercial laboratories, conducted by lay persons, who in practically every instance are without even the rudiments of a medical education. It is high time that you stop permitting, *yes even expecting,* these laymen to make diagnoses, upon which often the very life, and always the well being of the patient hangs.

On the other hand, please bear in mind that *licensed physicians, who conduct roentgen establishments are themselves responsible for any errors which they might make,* because being licensed to practice medicine, they become and act as independent contractors, performing duties and committing acts which the law authorizes them to do, and *you will not be held responsible for their acts.*

All thinking physicians are urged to carefully consider these points the next time a patient in need of roentgen examination or roentgen therapy presents himself.

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THE USE OF THYROID AND SUPRARENAL IN THE DIATHESES OF INFANCY (A CLINICAL STUDY)

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A diathesis may be defined as an individual congenital condition, or predisposition, which manifests itself by abnormal reactions to physiologic stimuli, living conditions or environment. The various diatheses are called lymphatic, thymico-lymphatic, exudative, or neuropathic. The diathetic manifestations observed in infants may be classified as respiratory, circulatory, digestive, nervous and dermal.

The fact that the different symptoms of the diatheses are alleviated following similar forms of therapy has led me to believe that they are produced by similar types of neurochemical imbalance. One group of clinical syndromes that present the various symptoms that are found in the diathetic infant are those of thyroid dysfunction. Cases of suprarenal insufficiency also show similar physical and functional abnormalities. As relatively few anatomical studies of the thyroid in infants have been made, we have very little information concerning the pathology of that organ in infancy. Several observers have found a post-natal involution of the suprarenal glands in newborn infants, and a general hypoplasia of the chromaffin and interrenal tissues in

post-mortem examinations of cases of status thymico-lymphaticus.

For some time I have found inorganic iodine to be somewhat effective in relieving the milder respiratory disturbances. Organic iodine (Cod liver oil) has also seemed beneficial in certain cases. During the past two years I have been administering thyroid to diathetic infants. The digestive symptoms (vomiting, intestinal colic, flatus and constipation) are usually promptly relieved following thyroid administration. This glandular substance has comparatively little effect on the various forms of dyspnea. During the last eighteen months I have given suprarenal gland to infants having respiratory and circulatory signs of a diathesis. In each case, almost immediate benefit follows the administration of the glandular substance, and subsequent permanent relief occurs with the continuing of the treatment. Those cases having both respiratory and digestive symptoms respond favorably to combined thyroid and suprarenal therapy. The nervous irritability which is frequently seen in these infants is allayed following thyroid treatment. The suprarenal gland seems effective in the eczematous skin lesions that are present in a certain number of these babies. Each of these glandular substances appears to have some synergistic effect upon the other.

As the various symptoms tend to be exaggerated following meals, I have found that the best results are obtained when the glandular substances are given with or preceding feedings. The doses that are apparently the most effective are 1/8 gr. and 1/4 gr. of desiccated thyroid gland, and 1/4 gr. and 1/2 gr. of desiccated suprarenal gland. The size and the frequency of the dose indicated, depends upon the severity of the symptoms, the age of the patient, the quality and quantity of the food, and the number of feedings in twenty-four hours. Occasionally, symptomatic relief is obtained more quickly if atropine, or phenobarbital is also given. In my experience, atropine is the preferable one in the respiratory disturbances, and phenobarbital is more effective with the digestive symptoms.

COMMENT

Cases herein reported illustrate the indications for, and the results of the administration of thyroid and suprarenal. The records of patients treated with these glandular substances before the date of the first case presented, are not given because the dosages used were not sufficient to obtain definite results, although they were sufficiently suggestive to encourage further investigation.

Eighteen of the 30 infants are males, and 23 were first-borns. The greater susceptibility of male and first-born babies is well-known. The true significance of this predisposition, however, has not been ascertained. Physically, the diathetic new-born usually appears to be above normal in development, especially well nourished, and sometimes seems to have a slightly edematous appearance of the skin.

Nineteen of the 30 infants had been weaned from the breast without any effort to improve the mother's milk. The quantity and quality of the supply of milk depend in no small measure on the physiologic well-being of the lactating person.[2] Her physiologic well-being is markedly affected by diet and environment. The normal infant thrives on the milk of a healthy mother. But diathetic infants are not normal, and the mothers often not physically normal, functionally so at least. They are frequently nervous, or they may be lethargic. Some of them have visible goiters, and some of them give definite histories of thyroid dysfunction. Many complain of indigestion and constipation, and wonder if they transmit their difficulties to the babies. These are the cases with which the pediatrician needs the cooperation of the internist. By helping these mothers toward a better state of health, the quality of their milk should improve, and the condition of their infants therefore be benefited. It has been my observation, that occasionally the treatment of a secondary anemia in a mother, ended her nursing difficulties. Environment, hygiene, diet, disease, and other factors affect the quality and quantity of breast milk, and hence the condition of the baby. The effect of these various factors on the iodine content of milk is worthy of our study. "The problems of human milk flow has received far less scientific study than it deserves, owing to indifference and misguided sentiment."[3] The readiness which which many physicians place babies on artificial feedings, without making any concerted effort to improve the breast milk is, in my opinion, not giving the child every chance it deserves.

When it does prove necessary to wean the diathetic infant from the breast, discretion should

be used in the selection of an artificial feeding. The quality of foods and their proper correlation are of fundamental importance in the welfare of all infants, and especially of those with manifestations of a diathesis. The nutritive value of any mixture of ingredients of food, however abundant they may be is limited by the minimum quantity of any essential element that it may contain, unless perchance the latter can be synthesized by the organism. The principle implying that growth can proceed normally only as rapidly as all essentials become available applies to many items in the diet.[4] One of these essentials is iodine. Abt[5] has pointed out that more attention should be paid to the iodine content of the infant dietary, as this has been, on the whole, a neglected factor. The goiter regions of the United States, which include Peoria, are characterized as a rule by a smaller content of iodine in the vegetation, local edible foods, and drinking water. "The iodine content of milk may vary from a trace to several parts per million depending on regional influence."[6] "A new possibility of deficiency due to vigorous boiling of cow's milk has been brought to notice by Magee and Glennire. In their tests heat caused the disappearance by volatilization of 20 per cent. or more, according to the duration of heating, of the total iodine of separated milk. This is the dietary supply of the element on which the milk-fed infant depends for its proper thyroid development. Perhaps one of the advantages of the now widely used cod liver oil, in certain districts, lies in its comparatively large content of iodine, which may be present to the extent of 0.001 per cent. Kelly has pointed out that, weight for weight, this is a thousand times more than is usually present in the common food stuffs, such as cereals. Green vegetables occupy the intermediate position between cod liver oil and cereals as regards their iodine content."[7]

My observations have agreed with those of others that infants seem to require relatively larger doses of thyroid than would be estimated on the comparative basis of weight. One should remember also that hypothyroid children may react with considerable toxicity to a minimal dose of thyroid, at the onset of treatment, but later may bear larger doses without toxicity.[8] An overdose of thyroid in infants will produce a general hypertonicity very similar to that following an overdose of atropine. Frequent "loose" stools also may occur. On the few occasions that this has happened, the untoward reactions have promptly subsided following the discontinuing of the thyroid. I have seen no apparent untoward effect following suprarenal administration. One of the most gratifying results of the use of thyroid and suprarenal in diathetic infants has been the subsequent freedom from respiratory infections and the better health in general of these infants compared with that of the diathetic children who have not received glandular therapy.

When administering thyroid to infants "it is of special importance to note that different patients show varying susceptibility to toxic effects of the thyroid gland. Experience has shown that we are very much more likely to overdose a cretinous than a non-cretinous child. This suggests that in apparently simple cases of endocrine deficiency with dominant thyroid syndromes there is a complicated glandular mechanism involved. It is a definite established fact that after a period of time the thyroid gland of some individuals is able to pick up and carry on without help."[9]

Discussion. According to Howland[10] true substitution therapy should be and is strikingly successful almost immediately. In my experience, thyroid and suprarenal, if intelligently administered, is "strikingly successful almost immediately" in the diatheses of infancy.

Great confusion exists as to the physiologic relationship between the thyroid and other endocrine glands and the involuntary nervous system. We are ignorant of the chemical or hormonal factors that control the tonus of the involuntary nervous system normally, or that stimulate it in emergency.[11] Hence, it is impossible at the present time to give a rational explanation of my results.

Let us review the literature and our combined observations and seek a scientific basis for glandular therapy of the diatheses of infancy.

Structural Pathology. Anatomically, status thymico-lymphaticus is characterized by hyperplasia of the thymus, hypertrophy and hyperplasia of the lymph glands and lymphoid tissue of the various organs, underdevelopment of the chromaffin, gonadal (suprarenal cortex, interstitial cells of the testis and ovaries) and cardiovascular system.[12] These structural abnormalities are found also in cases of thyroid dysfunction, and in those of suprarenal insufficiency.

TABLE 1

	Age	Sex	Weight	Feedings	Symptoms	Duration	Treatment (24 hrs)	Results
1.	6 weeks (8-12-30) 1st child	F.	8 lbs.	Cow's milk (boiled)	Snuffles Colic Constipation	1 week	Thyroid 6/8 gr. Suprarenal 6/4 gr.	Prompt relief. No return of symptoms after 1 month of treatment.
2.	1 month (9-9-30) 1st cbild	M.	9 lbs.	Dried milk	Eczema Constipation	1 week	Thyroid 5/8 gr.	Prompt. Thyroid discontinued after 3 weeks. Eczema returned. Thyroid continued 6 months. No eczema since.
3.	2 montbs (9-12-30) 1st child	M.	10 lhs.	Cow's milk (boiled)	Nervous Vomiting Colic Constipation Eczema	4 weeks	Thyroid 5/8 gr. Suprarenal 5/4 gr. Phenobarbital 5/4 gr. (for 3 weeks)	Prompt relief. Eczema returned 5 months later. Thyroid 4/4 gr. Suprarenal 4/2 gr. for 6 weeks. Skin has remained clear.
4.	6 months (9-29-30) 1st child	F.	13 lbs.	Cow's milk (boiled)	Cries most of the time. Expels much flatus Constipation	More or less since birth	Thyroid 5/8 gr. Phenobarbital 5/4 gr. Soft foods	Prompt relief. Phenobarbital continued 3 months. Thyroid 4 months. Excellent results.
5.	4 months (11-15-30) 1st child	M.	14 lbs.	Breast	Constipation	Since birth	Thyroid 3/8 gr.	Prompt effect. Thyroid continued 1 month. No further difficulty.
6.	1 year (11-20-30) 3rd child	M.	27 lbs.	Breast Solid foods	Asthmatic breathing most of the time since birth. Quite severe today.	Since birth	Thyroid 3/8 gr.	Prompt relief. Thyroid continued 5 weeks. No recurrence of asthmatic breathing since.
7.	2 months (12-4-30) 1st child	F.	12 lbs.	Dried milk (Has had 8 kinds of foods)	Snuffles Nervous vomiting Flatus Cries a great deal Constipation	6 weeks	Thyroid 5/8 gr. Atropine 5/1000 gr.	Condition good for 1 month. Then given soft food. Symptoms returned. Atropine discontinued. Thyroid 4/4 gr. for 1 month relieved symptoms permanently.
8.	2 months (1-3-31) 1st child	M.	11 lbs.	Cow's milk (boiled)	Snuffles Coughs and chokes while nursing Vomiting (projectile). Colic, flatus Contipation	5 weeks	Thyroid 6/8 gr. Atropine 6/1000 gr. C. L. O. 4 cc.	Prompt improvement in all but vomiting. Gastric lavages and gavages for 3 weeks, then thyroid 4/4 gr. and phenobarbital then discontinued, and thyroid 4/8 gr., suprarenal 4/4 gr. for 1 month. No recurrence of symptoms.
9.	2 months (1-4-31) 1st child	F.	8 lbs.	Cow's milk (boiled)	Nervous Wheezing respirations. Breath holding Colic, flatus Constipation Eczema	3 weeks	Thyroid 6/8 gr. Phenobarbital 6/4 gr. Cod Liver Oil 4 cc.	Excellent. Thyroid required 5 months.
10.	5 weeks (1-5-31)	M.	12 lbs.	Cow's milk (boiled)	Colic Constipation	3 weeks	Thyroid 6/8 gr. C. L. O. 4 cc.	Prompt relief. Continued relief following 5 weeks of thyroid.
11.	3 weeks (1-9-30) 2nd child	F.	8 lbs.	Breast	Snuffles Cough Vomiting (projectile)	4 days	Thyroid 7/8 gr. Atropine 7/1000 gr.	Prompt relief. Continued relief following 6 weeks of atropine and thyroid.
12.	2 months (1-14-31) 1st child	M.	8 lbs.	Dried milk	Colic, flatus Constipation	5 weeks	Tbyroid 6/8 gr. Phenobarbital 6/4 gr.	Prompt relief except constipation. Thyroid 6/4 gr. Phenobarbital 3/4 gr. daily. No further trouble. Thyroid and phenobarbital discontinued 2 months later.

	Age	Sex	Weight	Feedings	Symptoms	Duration	Treatment (24 hrs)	Results
13.	4 weeks (1-19-31) 2nd child	F.	9 lbs.	Breast	Snuffles Chokes and coughs while nursing Wheezing, vomiting, Tympanites Constipation	2 weeks	Thyroid 6/8 gr.	Prompt relief. No recurrence during and following 1 month of thyroid.
14.	11 weeks (1-19-31)	M.	12 lbs.	Cow's milk (boiled)	Snuffles Paroxysms of coughing and choking Wheezing	4 days	Thyroid 6/8 gr. Phenobarbital 6/8 gr.	Prompt relief. Phenobarbital continued 1 month. Thyroid continued 4 months. No recurrence.
15.	4 months (1-24-31) 1st child	M.	13 lbs.	Cow's milk (boiled)	Eczema	2 months	Cod Liver Oil 4 cc. Thyroid 7/8 gr.	Prompt improvement. 3 months later soft foods added to diet and eczema returned. Thyroid 5/8 gr. Suprarenal 5/4 gr. Skin cleared promptly. Thyroid discontinued 1 month later. Suprarenal 4/2 gr. given 5 months. Skin has remained clear.
16.	6 weeks (2-21-31) 2nd child	F.	10 lbs.	Breast	Colic Flatus	3 weeks	Thyroid 6/8 gr. Phenobarbital 6/8 gr.	Prompt relief. Phenobarbital continued 1 month. Thyroid continued 4 months. No recurrence.
17.	10 weeks (2-25-31) 2nd child (1st still-born)	F.	15 lbs.	Cow's milk (boiled)	Colic Dysphagia Constipation	6 weeks	Thyroid 6/8 gr. Atropine 6/1000 gr. Cod Liver Oil 4 cc. Soft foods	Prompt relief except constipation. Two weeks later gave thyroid 4/8 gr. Suprarenal 4/4 gr. Continued 5 months. No recurrence.
18.	17 months (5-8-31) 1st child	F.	25 lbs.	Various foods	Eczema Vomiting Constipation	2 months	Thyroid 3/4 gr. Suprarenal 3/2 gr.	Prompt relief. Skin remained clear. No vomiting or constipation during or following 4 months of thyroid and suprarenal.
19.	6 weeks (5-29-31)	M.	12 lbs.	Cow's milk (boiled)	Nervous Colic, flatus Constipation	4 weeks	Thyroid 6/8 gr. Phenobarbital 6/4 gr.	Prompt relief. Phenobarital continued 1 month. Thyroid 3 months. No recurrence.
20.	3 weeks (6-2-31) 3rd child Mother obese and lathargic	M.	8 lbs.	Cow's milk (boiled)	Colic, flatus Constipation	3 days	Thyroid 6/8 gr. Suprarenal 6/4 gr. Phenobarbital 6/4 gr.	Prompt relief. Phenobarbital and suprarenal discontinued 1 month later. Thyroid 6/4 gr. and suprarenal 6/2 gr. for 1 month gave prompt and permanent relief.
21.	8 weeks (6-17-31) 1st child	M.	12 lbs.	Breast	Colic, flatus Constipation	6 weeks	Thyroid 7/8 gr. Atropine 7/1000 gr. Cod Liver Oil 4 cc.	Prompt relief. No recurrence after 1 month of atropine and 3 months of thyroid.
22.	3 months (7-3-31) 1st child	M.	12 lbs.	Breast	Nervous, vomiting, colic, flatus, constipation	2 months	Thyroid 6/8 gr. Cod Liver Oil 4 cc. Soft foods	Prompt relief. Thyroid continued 2 months.
23.	4 months (7-7-31) 1st child	M.	13 lbs.	Dried milk	Nervous Vomiting Colic, flatus Dyspnea Constipation	3 months	Thyroid 6/8 gr. Suprarenal 6/4 gr. Phenobarbital 6/4 gr. Cod Liver Oil 4 cc. Soft foods	Prompt relief. Phenobarbital, thyroid and suprarenal continued 2 months.
24.	4 weeks (7-30-31) 3rd child	M.	8 lbs.	Cow's milk (boiled)	Vomiting, colic Constipation Anorexia Dehydration	2 weeks	Thyroid 6/8 gr. Suprarenal 6/4 gr. Cod Liver Oil 4 cc. Soft curd milk	Prompt improvement. Gradually improved except for constipation. Six weeks later discontinued suprarenal, and gave thyroid 5/4 gr. Prompt relief. Thyroid continued 2 months.

	Age	Sex	Weight	Feedings	Symptoms	Duration	Treatment (24 hrs)	Results
25.	2 months (8-1-31) 1st child	F.	11 lbs.	Breast	Snuffles Dyspnea, dysphagia, vomiting, constipation, cyanotic attacks Protruding tongue, Cretin features Profuse drooling Blood sugar 75 mg. Large thymus shadow	1 month	Thyroid 6/8 gr. Suprarenal 6/4 gr. Cod Liver Oil 4 cc.	Temporary improvement. One week later all symptoms markedly exaggerated, could not tolerate atropine. Suprarenal 6/4 gr. relieved dyspnea, hut phenoharhital required for digestive symptoms. Weaned from breast and given soft curd milk and soft foods. Continued suprarenal 5/4 gr. and started thyroid 1/8 gr. and gradually increased to 5/8 gr. daily. Patient remained comfortahle and gradually became symptom free. Shows no signs of thyroid deficiency.
26.	18 days (8-9-31) 1st child	F.	8 lbs.	Dried milk	Vomiting Colic, flatus Constipation	1 week	Thyroid 6/8 gr. Phenobarbital 3/4 gr. Soft cured milk	Prompt relief. Phenoharhital continued 2 weeks, thyroid 4 weeks. No recurrence.
27.	4 weeks (8-10-31) 1st child	M.	11 lbs.	Breast	Dyspnea Wheezing respirations Constipation	4 days	Thyroid 6/8 gr. Suprarenal 6/4 gr.	Prompt relief. Treatment continued 6 days. No recurrence.
28.	2 weeks (8-13-31) 2nd child	F.	8 lbs.	Breast	Vomiting, dyspnea, cyanosis Anorexia, tympanites	12 hours	Thyroid 6/8 gr. Suprarenal 6/4 gr.	Prompt relief. Thyroid and suprarenal continued 2 months. No recurrence.
29.	2 days (8-21-31) 1st child	M.	10 lbs.	Breast	Sudden cyanosis Dyspnea and tympanites following nursing	2 hours	Thyroid 7/8 gr. Suprarenal 7/4 gr.	Prompt relief. Thyroid and suprarenal continued 1 month. No recurrence.
30.	7 weeks (9-1-31) 1st child	M.	9 lbs.	Evaporated milk	Nervous Colic, flatus Coughs and chokes while nursing Vomiting Constipation	Since birth	Thyroid 6/8 gr. Suprarenal 6/4 gr. Cod Liver Oil 4 cc. Soft curd milk	Prompt relief. Thyroid and suprarenal continued 1 month. No recurrence.

The size of the thyroid gland in infancy is variable. In general it is of relatively large size at birth. Greater weights are found in goiterous districts. Abbott and Ball[13] recently made a significant report. They found anatomic evidence of disease of the thyroid in 41 per cent. of 100 fetuses after still-birth or miscarriages. More post-mortem examinations of the endocrine glands of infants should give us needed information.

At birth the suprarenal glands are relatively large. The cortex is hyperemic and is much thicker than in later life. The medulla is small, but is extremely vascular. A post-natal decrease in weight of the glands occurs during the first two weeks. The initial weight is not regained until about the age of puberty. The involution changes are mainly in the inner layer of the cortex, and in the adjacent interrenal tissue.[14]

Physiopathology. Infancy is a period of physiologic instability. Many of the body mechanisms, such as regulation of temperature, regulation of the heart rate, regulation of the composition of the blood, control of reflexes, control of emotional reactions and permeability of the intestinal mucosa, are unstable in early post-natal life.[15]

In diathetic individuals there is a disposition to hyperplasia of the thymus and the lymphatic apparatus and a particular sensitiveness to slight irritations and injuries which are somehow related to the endocrine glands and the vegetative nervous system.[16] The functions of the thymus are obscure and we do not know what role it plays in animal economy. The cause and significance of the lymphocytosis has not been satisfactorily answered or fully established. The number of lymphocytes may vary considerably during health and may be influenced by age, climate, diet, activity and exercise.[17]

Both cardiac and vasomotor centers in infancy are in a state of unstable equilibrium, irregularities of action may result on influences in no way related to the cardiovascular system. During no other period of life is the heart beat so truly a purely intrinsic affair. Alarming evidence of circulatory failure often accompany insignificant and transient disease due to stimuli subminimal to the adult, but active in these younger subjects.[18] The etiology of the cyanosis and dyspnea that occurs in the more severe types of status thymico-lymphaticus has caused much controversy. The pressure of the thymus on the trachea has often been accused, but this has rarely been proven post-mortem. Cyanosis, according to Macleod[19] is probably always due to an excessive degree of oxygen unsaturation of the blood. Remembering that the symptoms of acute cerebral anemia and of cerebral compression are the same[19] and that in my experiences, dyspnea and cyanosis are relieved following the administration of atropine or suprarenal, does a neurochemical imbalance not serve as a plausible explanation of this disturbance in diathetic infants?

There is abundant physiological and clinical evidence that the pylorospasm and gastroenterospasm that occur in infancy are the result of a disturbed neurochemical equilibrium. Uermossy and Lukacs[20] report that chronic obstipation of nurslings, not dependent upon alimentary factors is frequently offset by treatment with thyroid gland.

It has been suggested that the diathetic symptoms of infants are manifestations of a hypertonicity of the vagus system. Increasing knowledge of physiology, however, is teaching us that "the antagonism between the sympathetic and parasympathetics in structures innervated by both components are only relatively true. The physiologic control of doubly innervated organs is more complicated than that of simple antagonistic action."[21] This would seem to be especially true of the unstable, unbalanced and incompletely developed nervous system of the infant. The fundamental function of the nervous system is to correlate the activities of the body so that its many parts may act harmoniously and as a unit in preserving the welfare of the individual.[19]

Life and growth consist essentially of chemical activity. The stability and efficiency of the various systems and organs of the body depend upon the maintenance of a biochemical equilibrium. The integrity of the endocrine glands, and the proper correlation of their hormones are important factors in the control of that equilibrium. The importance of certain if not all of the ductless glands is far greater to the growing child than to the adult. Two of these glands are the suprarenal, and the thyroid.

We know that the interrenal system is necessary to life, but the nature of its function is imperfectly understood. Morphologically, the

chromaffin cells are part of the sympathetic system. Physiologically, their function is the production of epinephrin and the supply of it to the blood.

The thyroid is essential for normal growth, but it is not essential to life. Its physiologic function is the secretion of thyroxin. The chemical and physiologic properties of thyroxin indicate that it is used in the process of oxidation as a catalytic agent. The effects of gross abnormalities of the thyroid in infancy are well-known. Are the diatheses manifestations of thyroid dysfunction, or of a disturbed correlation between the secretions of the thyroid and other glands? My observations lead me to believe that they are.

BIOCHEMISTRY

Calcium. Early in 1930, I obtained blood serum calcium determinations on three cases of diathesis with severe dyspnea. The readings 6.5, 7.0 and 8.6 per 100 cc., while lower than the published averages for infants, were not extremely low. Calcium administration to the patients gave no apparent relief. Beginning the first of April, 1930, with the cooperation of the National Pathological Laboratory of Chicago, and the obstetrical department of the Methodist Hospital, serum calcium estimations were made on the cord blood of 50 consecutive new-borns. (The Methodist Hospital shared with me the expense of this investigation.) The readings obtained were with one exception, within normal limits. These fifty infants were kept under observation during their first six months of life. During that sime six (16 per cent.) of them had respiratory manifestations of a diathesis. The symptoms of four of them were mild, and were relieved following atropine and iodine administration. The dyspnea of two cases was severe, and was not relieved until after roentgen therapy had been used. One of these, the only one of the fifty which had an extremely low (4.3) serum calcium at birth, showed no marked symptoms until the acute attack of dyspnea at six weeks of age.

Serum calcium values cannot be interpreted unless both protein and phosphate are simultaneously determined or are known to be normal. The presence of an adequate amount of protein in serum is one of the conditions essential for the maintenance of the normal calcium concentration.[22]

From studies made on calcium metabolism in infancy Anderson[23] reaches the conclusion that "the fact that the lime supply can be very materially varied without causing changes in the calcium content of the blood, seems to indicate that the maintenance of the blood calcium content at a definite constant level is one of considerable importance for the health of the infant, and that some very efficient mechanism is normally at work for the purpose of regulating the lime in the body fluids. Furthermore, it is not expected that a positive result, i. e., the finding of low or high calcium values, will give any solution of the very important problem as to whether the calcium regulating mechanism has broken down as a result of the prolonged or sudden strain of dealing with abnormal lime supplies, or from some entirely different causes, such as alteration in the reserve PH of the blood, the action of some toxin, or the lack of some essential substance other than lime in the diet." Calcium is one of the few elements which is known to be excreted from the blood through the walls of the colon. Hence absorption in the upper bowel may be good, but if the calcium cannot be converted to use, it may find its way out, through the lower bowel. "This but emphasizes that the real seat of calcium hunger is in the tissues themselves. Filling the intestine with calcium or making it more soluble has no more effect upon growth than filling the lungs with oxygen has upon the general process of oxidation."[24]

"Aub, Bauer, Heath and Ropes have shown that disorders of the thyroid have a definite influence on the metabolism of calcium unaccompanied by any demonstrable changes in its concentration in the serum.—Patients with hypothyroidism excrete less calcium and phosphorus in the urine than normal persons."[22]

Phosphorus. The inorganic phosphorus of the new-born is low, ranging from 3 to 5 mg. The serum of older infants contains from 1 to 3 mg. more of inorganic phosphorus than that of adults.[22]

Cholesterol. Goldbloom and Gottlieb[25] have reported that cholesterol in the whole blood is higher the younger the individual. This relation is maintained even in diseases where cholesterol is increased, as in eczema and cretinism. Since increased blood cholesterol is considered indicative of endocrine dysfunction, investigations of cholesterol values in diathetic infants

should aid in ascertaining the true physiopathology of the diatheses.

Carbohydrates. Carbohydrate metabolism in infancy is less stable than in adults. Either the carbohydrate reserve of the body is more rapidly depleted, or the infant organism is less efficient in mobolizing glucose suddenly demanded. McLean and Sullivan[26] and Aldrich and Munns[27] have reported low blood-sugar findings in cases of status thymico-lymphaticus. Hypoglycemia is generally considered an indication of endocrine dysfunction. In congenital hypothyroidism and in Addison's disease the fasting blood-sugar may be somewhat low. Low blood-sugars are obtained also in malnutrition. Since high caloric feedings tend to exaggerate the symptoms of diathetic infants, they should not be confused with cases of inanition.

Fats. A more or less reciprocal relationship exists between glycogen and fat in the liver. When much glycogen is present there is little fat and vice versa. In hypothyroidism the fats in the blood are elevated.[22] "A diet rich in fat is especially conducive to thyroid hyperplasia, and oleic acid has even a more marked effect. Cod liver oil, which contains 0.002 per cent. iodine not only does not excite thyroid enlargement but exercises a protective function.—McCarrison found that all animal fats contain oleic acid, which being an unsaturated fatty acid forms a combination with iodine. McCarrison's experiments suggest the dependence of the animal organism (and the thyroid gland) on the amount of iodine proportionate to the amount of fat and oleic acid ingested, a sort of 'fat-iodine-thyroid' balance."[28]

Proteins. "Bakwin and Rivlain and Mello-Leitao found that the serum of infants contains considerably less protein than that of adults."[22] This may be a factor in the myxedematous appearance of some diathetic infants.

The action of thyroxin is greatly enhanced if it is given with amino acids. It is therefore believed to be particularly concerned with the metabolism of these substances. The amino-acids appear to serve as sources of essential non-protein substances in the body, and probably hormones such as adrenalin and thyroxin.[19]

Iodine. On the basis of researches carried out on the thyroids of normal and gravid animals and during and immediately following parturition, and also on the thyroids of young just born or several days old, Romaniello[29] reaches the conclusion that the iodine content of the thyroid increases nearly always in pregnancy, diminishes rapidly during parturition and immediately afterward, and that in the fetal thyroid the iodine does not begin to be found until a few days after birth. Romaniello's conclusions coincide with the general opinion that the state of pregnancy demands increased secretion of the thyroid gland, and that considerable iodine is withdrawn from the maternal organism by the fetus during its development. When the supply is inadequate it is probable that the mother suffers first and then the child. Results following the prophylactic administration of iodine to pregnant women corroborate this view. It is known that the iodine content of the thyroid, of blood and milk may be raised by adding iodine in inorganic or organic form to the diet.[19]

Thyroid. Commercial desiccated thyroid gland tablets are said to have not less than 0.17 per cent. and not more than 0.23 per cent. iodine. The role of iodine in thyroid is not known. But all preparations of the gland that have been shown to have a thyroid action contain iodine and no iodine compounds other than those derived from the thyroid gland have been found to have a distinct thyroid action.[30] The thyroid hormone has a powerful influence upon the development of the body, and metabolism in general. Iodine and iodides in spite of their striking effects in thyroid disease do not seem to influence the metabolism of normal individuals.[22] The amino grouping, which includes tyrosin, is evidently responsible for these effects.

Suprarenal. Parke Davis & Co., who supply me with ¼ gr. tablets of desiccated whole suprarenal gland, have given me the following assay, adrenalin 4.3 per cent. and sulphur 3.77 per cent. The adrenalin, a tyrosin derivative, we know is not absorbed in toto. Whether the sulphur is of any therapeutic value remains to be determined. Sulphur occurs in the body and its different excretions and secretions in a great many forms. It plays an important role in metabolism as the compound cystine. Cystine is an indispensable amino acid.[19] "Cystine is found in varying amounts in almost all proteins and in all of the active tissues of the body. It is one of the amino acids which is responsible for nor-

mal growth and which must be derived from exogenous sources, because the body is incapable of synthesizing it from other amino acids and sulphur compounds. The functions of cystine are not fully understood. It is probable that cystine derives much of its importance in biology from the fact that it serves as a source of cystine to the organism. Cystine and its derivatives are extremely active and important factors in facilitating oxidations and reductions in the tissues."[22]

Atropine. Since atropine is used effectively in diathetic cases, it seems worth recalling that Alarcorn[31] and others[32] have found that atropine increases metobalism, and that Santenoise and Tinsel[33] report that the blood sugar level rises after its administration. Whether these results are due to parasympathetic inhibition, or as Alarcorn thinks, to sympathetic stimulation, the effect is the same, namely that of activating the thyroid and suprarenal glands. "From what is known of the function of the thyroid it seems likely that its effect on carbohydrate metabolism can be attributed to its influence upon the sympathico-adrenal mechanism."[22] According to Hoskins, thyroxin and adrenalin are reciprocal substances. One gland cannot be activated without the other, for their secretions are reciprocally stimulating.[34]

Roentgen Rays. Roentgen ray results compare closely with non-specific protein reactions.[35] These represent certain forms of stimulation of metabolic activities which are manifested by an increase in urinary nitrogen excretion, in the retention of non-protein nitrogen elements, an increase of the respiratory quotient, and the elevation of the blood-sugar level.

SUMMARY AND CONCLUSIONS

1. There is much clinical and laboratory evidence that the constitutional diatheses of infancy are manifestations of a neurochemical imbalance of the congenitally unstable physiological activities of the infant.

2. There is some pathological and clinical evidence that this neurochemical imbalance is the result of a disturbed equilibrium between the secretions of the endocrine glands.

3. Therapeutic results presented herein for confirmation, infer that the endocrine dysfunction lies primarily in the thyroid and suprarenal glands.

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GUN-SHOT WOUND OF THE LOWER THIRD OF THE HUMERUS WITH MUSCULO-SPIRAL PARALYSIS: BONE DEFECT REPAIRED BY INTERPOSITION OF CORTICAL FRAGMENT WITHOUT THE USE OF FOREIGN MATERIAL*

Guy S. Van Alstine, M. D.

CHICAGO

L. S., a lad of three years and ten months, was shot by a playmate from a distance of eight feet with a .38 automatic pistol. His arms were extended above his head at the time (they were playing "hold-up") and the bullet entered at a point about 2½ inches above the antecubital fossa, traveling obliquely upward and backward, and emerged about 1½ inches above the tip of the olecranon. He was given first aid treatment by a neighborhood physician and was brought into Wesley Memorial Hospital on my service three days later. Examination revealed a complete "wrist drop." The condition of the bone was as shown in Plate 1.

Because of the musculo-spiral paralysis open operation was done without further delay. An incision was made over the dorsum of the arm extending through the wound of exit. Some free fragments of bone and four flattened pieces of lead were removed. The musculo-spiral nerve was located and found tightly pinched between

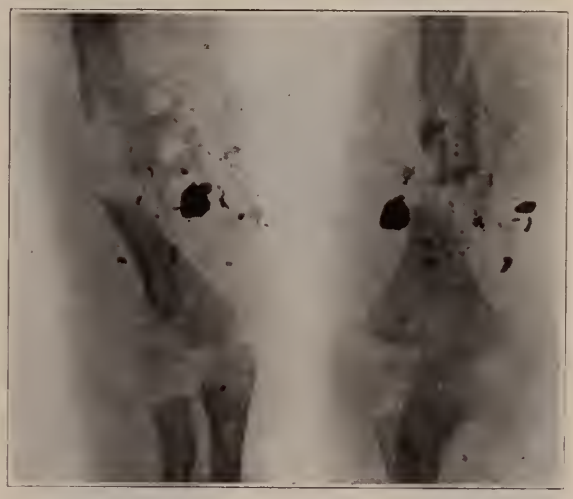


Plate 1. Taken November 29, 1919, 3 days after injury.

fragments near where it emerges from the external intermuscular septum. The nerve was cut transversely for about one-third of its diameter. It was freed, one fine silk suture was placed in the laceration, and, after the bone was repaired,



Plate 2. Taken December 22, 1919, 3 weeks after operation.

wrapped in muscle before closing the wound. A fragment of cortex about ½ inch by 1½ inches, still attached at its upper end to the periosteum of the proximal portion of the shaft, was sprung

*Case report, with serial Roentgenograms covering a period of over twelve years.

into the defect, and the wound closed without drainage. Traction was put on the fore-arm with the elbow fully extended for three weeks, after which the elbow was flexed to a right angle and a cast applied.



Plate 3. Taken January 22, 1920, about 8 weeks after treatment.



Plate 4. Taken November 28, 1920, one year after treatment.

With the exception of a broncho-pneumonia, developed at the end of the third week, his further course was uneventful. The paralysis cleared up at the end of the fourth month, excepting for a drooping of the third finger and an inability to abduct the thumb. By the end of the first year these disabilities had completely disappeared. Examination a little over twelve years after the injury (January, 1932), shows a perfect arm; there is no atrophy, no limited motion, and no lack in muscular strength.



Plate 5. Taken July 23, 1925, 5 years 8 months after treatment.

Roentgenograms taken at three weeks, two months, one year, five and one-half years, and twelve years are shown in the accompanying cuts (see Plates 2 to 6 incl.). From a study of these plates the following interesting features are observed: The small fragment, sprung in between the ends of the main fragments, "took." Nature rapidly filled in defects, carried away the small displaced bone particles, and straightened out the abnormal curves according to Mr. Lane's



Plate 6. Taken January 5, 1932, over 12 years after treatment.

"Lines of Force." The medullary cavity has been fully re-established.

COMMENTS

1. This case emphasizes again the need for careful examination for nerve injury at the time "first aid" is given.

2. One should, whenever possible, in open operation on fractures, attempt to replace and adjust fragments without introducing such foreign material as wire, screws, and plates.

55 E. Washington St.

DISEASE STATES CAN NEVER BE IDENTICAL

Just as no two human beings are precisely alike, not even twins from the same ovum, so two disease states can never be identical, even though they are produced by almost indistinguishable agents. Similarities do exist between disease states as well as between human beings. This is most noticeable in twins, quite common in families, not rare in communities, unusual between nations and most divergent in different races. A single anatomical feature, too, a peculiar mode of thought, a simple physiological process or an isolated pathological lesion may seem to be exactly the same in two different individuals; but each complete personality, each state of disease, is unique. When disease is regarded from this point of view, the slightest departure from the wholeness of health may produce a profound and lasting effect; for the significance of the injury may depend, not so much on its physical result as on the interpretation that the patient gives it. —Longcope, W. T.: Methods and Medicine, *Bull. Johns Hopkins Hosp.* 50:4 (Jan.) 1932.

THREE FATAL CASES OF BACILLUS PYOCYANEUS INFECTION

B. S. Kline and A. S. Maschke, Cleveland (*Journal A. M. A.*, Feb. 13, 1932) report three fatal cases of Bacilus pyocyaneus infection that presented characteristic features, including gangrenous and less severe lesions of the skin, most advanced in the anal, rectal or genital areas; general intoxication with profound prostration and, at autopsy, hemorrhagic and necrotic lesions in the skin and viscera, associated with massive local bacterial colonization. One of these cases, which presented agranulocytosis, terminated eighteen days after the onset of symptoms in a previously healthy child. B. pyocyaneus infection, although not of common occurrence, is perhaps less rare than is generally supposed. Clinically it may be confused with a number of skin diseases, including pellagra and lupus erythematosus disseminatus. It must be differentiated from aleukemic leukemia, the purpuras and other diseases. Some progress toward specific therapy has been reported, and it is possible that further studies will reveal methods of preparing bacteriacidal and antitoxic serums.

Society Proceedings

COOK COUNTY

CHICAGO SOCIETY OF INDUSTRIAL MEDICINE AND SURGERY AND CHICAGO UROLOGICAL SOCIETY

Joint Meeting, Wednesday, March 2, 1932

"Pelvic Fractures," Kellogg Speed.

Discussion, William R. Cubbins.

"A Study of Certain Urological Complications Associated with Fractured Pelvis," Edward William White.

Discussion Opened by William R. Cubbins and Charles M. McKenna.

CHICAGO ROENTGEN SOCIETY

Wednesday, March 9, 1932

"The X-Ray Treatment of Inoperable Carcinoma of the Breast," E. T. Leddy, Rochester, Minn.

Discussion opened by Benjamin H. Orndoff.

George M. Landau, President.

Roe J. Maier, Secretary.

CHICAGO MEDICAL SOCIETY

Program by the Faculty of the Northwestern University Medical School.

SYMPOSIUM ON MUCIN THERAPY

Introduction, Samuel J. Fogelson.

Clinical Results in the Treatment of Peptic Ulcer by Gastric Mucin, Arthur J. Atkinson.

Objective Results with Mucin Therapy on Peptic Ulcer. Clarence F. G. Brown.

Observations on the Prevention of Experimentally Induced Peptic Ulcer by "Gastric Mucin," Andrew C. Ivy, Gordon B. Fauley, M. S. Kim.

Discussion, Charles A. Elliott and Edward Jenkinson.

GREENE COUNTY

Regular meeting of the Greene County Medical Society was held in the parlor of Hotel Lindsey in Carrollton, Friday, March 11, 1932.

The meeting was called to order by Vice-President Dr. O. J. Gause at 6 P. M. and a brief business session was held. Dr. O. L. Edwards of Roodhouse was appointed to represent the Greene County Society on the American Legion Contact Committee of the State Medical Society.

Dr. W. H. Garrison of White Hall was chosen as delegate and Dr. Howard Burns of Carrollton as alternate to the meeting of the Illinois State Medical Society which will be held in Springfield May 17, 18, 19, 1932.

Dr. C. O. Bulger of Greenfield was appointed censor to fill vacancy.

The meeting then adjourned to the dining room where the physicians did justice to an excellent dinner.

The scientific program consisted of a paper on "Hypertension" by Dr. N. J. Bucklin of Roodhouse. A paper on "Acute Disseminated Encephalo-Myelitis" by

Dr. A. B. Jones of St. Louis and a case report on Tularemia by Dr. C. O. Bulger of Greenfield. The papers were all instructive and were listened to with much interest by the members present. A general discussion of the papers followed and the society adjourned feeling that the meeting had been one of unusual scientific interest.

Seventy-five per cent. of the membership were present. The society wishes especially to express its appreciation of the presence and help of Dr. Jones and Dr. Thompson of St. Louis.

The next meeting will be held in Greenfield June 10.

WILLIAM H. GARRISON, Secty.

Marriages

JOHN BERTRAM FITZGERALD to Miss Mildred Guinn, both of Chicago, February 3.

ISADORE MALLIN to Miss Emma Adeline Polin, both of Chicago, February 2.

GLEN WALKER to Miss Fleta Clark, both of Herrick, Ill., in Covington, Ind., Nov. 12, 1931.

Personals

At a recent meeting Dr. Robert B. Preble was elected president of the Chicago Heart Association and Dr. Sidney Strauss, secretary.

Dr. William W. Graves, St. Louis, addressed the Madison County Medical Society, March 4, at Alton on "Practical Basis in the Diagnosis of Neurologic Conditions."

A symposium on the public defender comprised the program of the meeting of the Chicago Academy of Criminology, March 10.

Dr. Mortimer Diamond, among others, addressed the Chicago Pathological Society, March 14, on "Fetal Calcification of the Myocardium."

The Chicago Neurological Society was addressed, March 17, among others, by Dr. William F. Lorenz, Madison, Wis., on "Confessions Obtained During Narcosis."

Dr. Vilray P. Blair, St. Louis, addressed the Adams County Medical Society, Quincy, March 14, on "Early and Late Treatment of Deep Burns."

The Aurora Medical Society was addressed, March 3, by Dr. Lowell D. Snorf, Chicago, on "Complications of Peptic Ulcer."

Dr. Francis Eugene Sencar, Chicago, addressed the Will-Grundy County Medical Society, March 2, on the present status of antisyphilitic treatment.

Dr. Leo L. Mayer, among others, addressed the Chicago Ophthalmological Society, March 21, on "Visual Fields, Blind Spots and the Optic Disks in Endocrine Diseases."

Dr. Eugene T. Leddy, Rochester, Minn., addressed the Chicago Roentgen Society, March 9, on "X-Ray Treatment of Inoperable Carcinoma of the Breast."

Among others, Drs. Henry B. Thomas and Fred W. Hark addressed the Chicago Tuberculosis Society, March 10, on diagnosis and treatment of tuberculous joints.

Dr. Austin A. Hayden addressed the Chicago Laryngological and Otological Society, March 7, on "Medical Advertising."

The Chicago Orthopedic Society was addressed, March 11, by Drs. Eric Oldberg and Carroll C. L. Birch on "Spinal Tumors—Spasmodic Torticollis" and "Hemophilia," respectively.

Dr. Charles Macfie Campbell, professor of psychiatry, Harvard University Medical School, delivered the Gehrmann Lectures at the University of Illinois College of Medicine, March 15-17.

The Peoria City Medical Society was addressed, March 15, by Drs. Russell L. Haden and Thomas E. Jones, Cleveland, on "Types and Treatment of Chronic Arthritis" and "Management of Neoplasms of the Colon and Rectum," respectively.

The Chicago Society of Allergy was addressed, March 21, by Drs. Paul R. Cannon and William L. Beecher on "Studies in Tissue Immunity" and "Allergy as a Factor in Ulcers of the Digestive Tract," respectively.

The Chicago Surgical Society was addressed, March 4, among others, by Drs. Loyal Davis and Hale A. Haven on "Surgical Treatment of Trigeminal Neuralgia," and Charles B. Huggins, "Further Experiments on Bone Formation."

Dr. Ellis Fischel, St. Louis, addressed the St. Clair County Medical Society at Belleville, March 2, on "Use of Radium in Malignancy." Dr. Frank J. Tainter, St. Louis, addressed the society, March 3, in East St. Louis on "Problems of Thyroid Surgery."

At the meeting of the La Salle County Medical Society, Mendota, March 17, the speakers were Drs. Thomas K. Brown and Isaac Y. Olch, St. Louis, on "Treatment of Puerperal Infection" and "Hyperparathyroidism and Hyperinsulinism and Their Importance in Surgery," respectively.

At the meeting of the Chicago Gynecological Society, March 18, the speakers were Drs. Pashupati J. Sarma and George De Tarnowsky on ovarian embryoma, and Gustav Kolischer, urologic conditions in women.

The Medical Women's Club of Chicago gave a dinner, February 10, in honor of Dr. Bertha Van Hoosen, head of the department of obstetrics in Loyola University Medical School.

The Society of Medical History of Chicago was addressed, March 1, by Dr. Arno B. Luckhardt on "History of Hemostasis," and Dr. P. Arthur Delaney, "Michael Servetus and the Discovery of the Pulmonary Circulation." There was also an exhibition of old medical books in Billings Library, University of Chicago.

The Chicago Society of Internal Medicine was addressed, March 28, by Drs. Jesse R. Gerstley, on "Lactic Acid Milk: Has It Solved the Problem of Infant Nutrition?" Carroll C. L. Birch, "Further Work on Hemophilia," and John A. Wolfer, "A Study of the Pancreatic Juice as a Factor in the Etiology of Gallbladder Disease."

Dr. Leon Unger, Chicago, addressed the Iroquois County Medical Society, at Watseka, February 25, on "Recent Advances in the Treatment of Asthma and Hay Fever."

Dr. Max Thorek was made a Chevalier of the Crown of Italy. This dictinction has been conferred upon him by King Victor Emanuel, III. The decoration was conferred by Consul-General Signor Guiseppe Castruccio.

Dr. Edward H. Carey, President-Elect of the American Medical Association, addressed the students and faculty of the College of Medicine, University of Illinois, February 26, on "Medical Education, Past and Present."

News Notes

—The first unit of the new municipal home for open cases of tuberculosis was recently opened. It is reported that about 400 patients can be accommodated in the institution, for which a building formerly occupied by the Chicago and Cook County School for Boys is being utilized, although the new unit will house only fifty.

—Members of the medical and dental professions from McLean, La Salle and Woodford counties were guests of the Livingston County Medical Society, March 17, at a St. Patrick's Day banquet. Dr. Earl V. Wilcox, Flanagan, president of the Livingston County Medical Society, acted as toastmaster. Mr. W. K. Lasher, Chicago, spoke on "The Business Side of Medicine and Dentistry."

—A proclamation has been issued by the governor designating the week beginning April 24 and the day, May 1, as Health Promotion Week and Child Health Day, respectively. The days of the weeks will be known as Health Sunday, April 24; Nutrition Day, April 25; Dental Health Day, April 26; Immunization Day, April 27; Parental Inventory Day, April 28; Screen and Garden Day, April 29, and April 30-May 1, Child Health Day. Sunday, May 1, is officially designated National Child Health Day by the President of the United States, but the activities will take place largely on Saturday.

—Six new nurses and a medical officer will be assigned by the state department of public health for duty in southern Illinois to assist a corps of three physicians and five nurses already in that area in a concentrated campaign of immunization against typhoid, smallpox and diphtheria. The special campaign will continue for three months, beginning April 1. The state department will also furnish free of local cost the necessary vaccines and toxoid. Last year the thirty-four southern counties experienced a distinctly higher prevalence rate of these diseases and of tuberculosis than did the central and northern thirds of the state. Cook County made the tuberculosis rate of the northern third a little higher than the southern, but exclusively of Cook County the northern third had a death rate from tuberculosis of 49.9 against a rate of 62 per hundred thousand in the southern third. There were seventy-three deaths from typhoid in 1931 in the thirty-four southern counties, giving a rate of 7.4, against a state rate of 1.6. Fifty-nine deaths were reported from diphtheria, giving a rate of 6, against a rate of 4.9 in the state at large.

—In order better to carry out the national program, the Illinois Branch of the American Society for the Control of Cancer was reorganized at a meeting, February 16, attended by representatives of the medical and dental professions, medical and dental colleges of Chicago, city and state health departments, Chicago Association of Commerce, Visiting Nurse Association and social

agencies. It is intended that all approved organizations active in cancer education and research in Chicago and Illinois shall be properly represented in this branch, the purpose of which is to standardize approved methods of education, and to prepare and conduct a program in cancer education and research. Dr. Gilbert Fitz-Patrick was reappointed chairman for Illinois. Dr. William A. Evans was appointed chairman of the reorganization committee. Clarence C. Little, Sc.D., director, American Society for the Control of Cancer, as guest of honor, discussed cancer education. One of the special features of the Illinois program is the preparation of a book of pictures on lesions of the skin and mouth before and after treatment. The legends are being prepared by Drs. William E. Peterson and Francis E. Senear.

—At the scientific session of the Northern Province Meeting of Phi Beta Pi held in Room 106, College of Medicine, University of Illinois, on March 5, 1932, the following program was given:

1. Effect of Experimental Hyperinsulinism on the Islands of Langerhans, Dr. Frank A. McJunken.
2. Sensory Fibers in the Spinal Cord, Dr. Steven A. Ranson.
3. Jaundice, Dr. Edmund Foley.
4. Prenatal Clinics, Dr. Carl T. Stephan.

Deaths

John William Alexander, Charleston, Ill.; Louisville Medical College, 1894; aged 64; a member of Illinois State Medical Society; founder of Oakwood hospital; died, March 6, of myocarditis.

Peter Lauder Brown, Orlando, Fla.; University of Michigan, 1866; a practitioner in Jacksonville, Ill.; for many years; aged 90; died, February 24.

Henry F. Bruning, Chicago; Medical College of Virginia, Richmond, 1891; a Fellow, A. M. A.; on the staffs of the Alexian Brothers Hospital and the Grant Hospital; aged 60; died, March 8, of lobar pneumonia.

Norman Walter Connaway, Newark, Ill.; St. Louis College of Physicians and Surgeons, 1906; aged 60; died, February 25, in the Copley Hospital, Aurora, of injuries received in an automobile accident.

Joseph Ambrose Dittmore, Chicago; Bennett Medical College, Chicago, 1915; a Fellow, A. M. A.; on the auxiliary staff of the Alexian Brothers' Hospital; aged 55; died, February 15, of cerebral hemorrhage.

George F. Dougherty, Neoga, Ill.; National University of Arts and Sciences, Medical Department, St. Louis, 1880; aged 76; died, February 20, in St. Anthony's Hospital, Effingham, of complications following a fracture of the leg.

George B. Duncan, Kewanee, Ill.; National Medical University, Chicago, 1896; aged 77; died, March 7, of influenza.

Fred Hill Fowler, Joliet, Ill.; Medical Department of Hamline University, Minneapolis, 1897; a Fellow, A. M. A.; member of the Kansas Medical Society; aged 57; died, February 15, of an injury to the spine.

Edwin Valentine Heaton, Lynnville, Ill.; Barnes Medical College, St. Louis, 1896; aged 61; died, February 6, in Jacksonville, of a self inflicted bullet wound.

Otto Holinger, Chicago; Rush Medical College, 1902; a veteran of the Spanish-American and World Wars; aged 53; died, February 22, in Edward Hines, Jr., Hospital, Hines, Ill.; of infarction of left ventricle and acute pericarditis.

Arthur MacNeal, Berwyn, Ill.; Rush Medical College, Chicago, 1892; a Fellow, A. M. A.; aged 64; medical director and superintendent of the Berwyn Hospital, where he died, March 13, of septicemia and pyemia following a slight punctured wound of the hand received while treating a patient.

Robert Newton Mekemson, Biggsville, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1882; aged 83; died, January 21, of mitral insufficiency.

Charles Alfred Nichols, Urbana, Ill.; Kentucky School of Medicine, Louisville, 1896; former president of Urbana board of health; president of the Isaac Walton league; aged 73; died, February 21, of pneumonia.

John C. Paugh, Mason, Ill.; 1887; Years of Practice; aged 90; died, February 23.

John Adolphus Raithel, Long Beach, Cal.; Bennett Medical College, Chicago, 1896; a practitioner in Chicago for many years; aged 62; died, in Long Beach, March 8, of myocarditis.

Theodore Schweer, Beardstown, Ill.; Rush Medical College, Chicago, 1897; a Fellow, A. M. A.; formerly postmaster; president of the sanitary district and for five years president of the school board; aged 62; died, February 17, of pneumonia.

Mila Belle Sharp, Aurora, Ill.; Columbus Medical College, Columbus, Ohio, 1884; formerly a practitioner in Madison, Wis., and Pontiac, Mich.; died, February 17, in Copley hospital, Aurora, from complications following an accidental fracture of the hip.

Thomas A. Smurr, Ottawa, Ill.; Jefferson Medical College, Philadelphia, 1862; aged 94; died, March 6.

William Faurman Turner, East St. Louis, Ill.; American Medical College, St. Louis, 1897; aged 73; died, January 28, in the Christian Welfare Hospital.

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EIGHTY-SECOND ANNUAL MEETING AT SPRINGFIELD, MAY 17, 18, 19, 1932

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An Advertising Statement

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Because in the Southwest—Bermuda grass, for instance, continues to flower until December when the mountain cedar, of many victims, starts to shed its pollen in Northern Texas and so continues into February. At that time, elsewhere in the South, the oak, birch, pecan, hickory and other trees begin to contribute their respective quotas of atmospheric pollen.

But, nevertheless, hay fever in the Northern States at least, is in fact seasonal in character and of three types, viz.:

TREE HAY FEVER—*March, April and May*
GRASS HAY FEVER—*May, June and July*
WEED HAY FEVER — *August to Frost*

And this last, the late summer type, is usually the most serious and difficult to treat as partly due to the greater diversity of late summer pollens as regionally dispersed.

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THE OFFICIAL ORGAN OF

THE ILLINOIS STATE MEDICAL SOCIETY

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Editorials

QUESTIONABLE MATERNITY STATISTICS HAS BEEN SEIZED UPON BY THE LAITY AS A GOLDEN BASKET OF COALS TO CARRY TO NEWCASTLE

The question of maternal mortality and the slogan "Better Maternity Care" seems to have been seized upon by the laity as a golden basket of coals to carry to Newcastle.

For certainly it is presumption and nothing less for well meaning but decidedly misinformed American citizens to feel called upon to tell the physicians of the United States what is wrong with their obstetrical work.

Insisting that the United States has the highest death rate in maternity cases of any country in the civilized world, group after group of women's federations and civic organizations cheerfully give the medical profession this slap in the face with one hand and set about stirring up more trouble with the other.

Disregarding entirely the facts that the United States rejoices in the most excellent medical service the world over; that our sanitary values are a marvel of foreign visitors and our hospitalization remarkably competent, these protesters seize upon the emotional idea that this country plays King Herod with great self-sufficiency and that we indulge in wanton slaughter of mothers as well as of children.

If there were any accurate barometer for securing the exact statistics on uncomplicated maternal mortality, there is small doubt but that the United States would receive a clean bill of health. We are admittedly far better situated in respect to every factor that tends to secure for mother and child those environments that tend to destroy all uncomplicated dangers of childbirth.

Ignoring all this, overlooking entirely the field of public health preventive measures reinforced by the ever vigilant care of individual physicians for individual cases the gay propagandist

marches on with banners. One of the best criticisms of the case comes frankly and freely from Dr. A. Kuhlmann in Melrose, Mass. He writes frankly as to the nonsense of the protest that our country has this highest death rate among mothers of the civilized world and decries the recent movement in New York City in which Mrs. Franklin Roosevelt and Mrs. John A. Sloane play leading parts.

"Mrs. Sloane," writes Dr. Kuhlmann in *American Medicine* for September, 1931, has three dogmatic points to be centered on for propaganda. All the points are somewhat of a slur on the American Medical profession. Pivoted on this movement on the day before Mother's Day, the *Catholic Daily Tribune* has an editorial on "Better Maternity Care" that to a person unfamiliar with this subject looks a bit shocking. Criticism and blame may be cast on those who are, as a whole and with few exceptions, not responsible. This editorial makes it appear that the general practitioner, the family physician and the women in small hamlets are ignorant and greatly in need to be educated in maternity care by such society leaders as Mrs. Roosevelt and Mrs. John Sloane, both from New York City. I shall not question the sincerity of these ladies and their co-laborers. There is some truth in their endeavors on this subject but fundamentally they are misinformed. In smaller communities there is a better record and fewer maternal deaths than in New York and other big cities with their specialists and modern facilities. Mrs. Sloane gives three contributing causes of high maternity mortality as she sees them and these three contributing causes are:

1. Ignorance of American women about the need of adequate maternity care;
2. Inavailability of adequate care at a price that every woman can afford;
3. Lack of properly trained medical care and nursing in the country districts.

There may be some truth in these points of Mrs. Sloane, yet fundamentally she is all wrong.

Dogmas such as hers only add more hysteria to this subject and to our present condition.

As to the first point, I state truthfully that there is no country in the world where girls and women know more about sexual matters than do ours in America.

As to the second there is no country in the world where women get better general care than in America.

As to the third we have more doctors, more nurses as well, than has any other country on God's earth. We have better sanitation in our houses and homes than has any other country. Now if we do have this "high average of maternity mortality" where lies the cause?

I am firmly convinced that it lies in too much meddling and too much artificial interference demanded by super specialists making propaganda and overzealous society women. They want to do away with all pains and discomforts, hurrying things for termination.

Such impatience may lead to too much anesthesia at the improper time. Often a doctor is almost forced to do something prematurely to hold his patients, especially if a certain society lady or some school ma'am has read fantastic articles about twilight sleep, etc., in the *Ladies Home Journal, Delineator* or similar periodicals. For twenty-five years of my life I have been a general practitioner. These were the best years of my life and I have labored in my chosen profession to the best of my ability in accordance to my conscience and my God and to help alleviate suffering humanity as is the way with the majority of doctors and have given much thought to the subject. In eight European countries it has been my privilege to visit the best hospitals. Therein I made especial inquiry for gaining those foregoing conclusions. It was my further privilege to talk to some of the experts on this subject, especially such men as Doederlein of Munich, Peham of Wien, Wagner of Prague, etc. All of them old men of world wide fame and all of them claiming that sanity, conservatism, and patience is their advice in obstetrics. These men put twilight sleep on the shelves. It is to be used only for hysterical and neurotic women who can pay fancy prices. In Italy only from about 15 to 20 per cent. of the women are ever attended in confinement by a physician, and that percentage usually the abnormal cases. In Switzerland, Germany, Austria, France, Belgium and Holland the women do not get the care and attention at maternity periods that our women enjoy. Why not? Because as a rule it is an impossibility for the general run of the citizenry to pay from $25 to $100 for a confinement case.

A clean home is absolutely safe in almost all cases.

In many things we are going too fast in this country. People are doing everything for others' children instead of attending to their own. It is about time that each one tries to take care of her own children. Clubs here, clubs there, a person nowdays is in danger of being clubbed to death. Recently at a meeting of about 1,000 doctors in Minneapolis the question of maternity mortality was discussed. The head of the obstetrical department was the last speaker and he said, "This is the proudest moment in my life when I see that by practicing sane conservatism in obstetrics our state has the lowest death rate in the Union. It is not the specialist who gets the honor but the general practitioner."

MAIL ORDER DEPARTMENT STORE ADDS AUXILIARY MEDICAL SERVICE

When mail order department stores add an incompetent, and consequently perilous auxiliary medical service to their catalogue of mercantile "bargains," sent the world over at the very best of parcel-post rates, certainly there has been reached the apotheosis of sinning against the credulity of the general public.

To delude by false promise the ailing, the sick and the suffering is the height of cruelty even under the most extenuating of conditions. But when this degraded trickery is done deliberately for commercial gain the crime is brutally heinous. Hand in hand with this malfeasance walks that sinister charlatanism that persuades the normally healthy to accept the false premise that they are really ill and in need of highly specialized treatment! Pitiless publicity and drastic action by the medical profession and a more or less enlightened section of the laity, has driven away from the fields of direct effort a large part of this old fashioned medicine show buncombe. True the departure was taken under protest. And with a mental reservation.

For the profits of the "diagnose-your-own" ailment are too fat and juicy for such a source of supply to remain dormant long in the eyes of business so big, so thrifty that it can even utilize the "squeal of the pig." The land of the wooden nutmegs continues to produce its banner crop.

So the "fill-out-the-blank-and-send-it-to-Dr.-Do-'em" may have been pushed from the advertising pages of the more reputable publications but it is sneaking back again under a new guise. Like the poor it will always be with us.

For over half a century—60 years to be exact—the mail order house of Montgomery Ward & Co., has been purveyor of everything from *a-b-c* blocks to xylophones to the great American public. As life and living and its accessories develop so does the familiar rural catalogue.

Now to the other bargains that you may get therefrom, this great supply house—in the recent boom days it showed a rate of profit that would have staggered Midas and made Croesus sick indeed—advertises "A new professional service . . . urine analysis" and that "for the price of $1.50." It also advises that this service should be repeated every ninety days and even goes so far as to prescribe how the urinalyzed can himself correct the "faulty conditions" if he doesn't care "to take them to his physician." Oh—the alibi designed in those last seven words!

Physicians are aware that of recent years there has been a tendency on the part of commercial concerns to exploit the generally advocated program of frequent physical examination with inclusion of course of urinalysis which the "Life Extension Institute" widely broadcast should be had four times a year.

In no instance has there been anything quite so bald as this effort on the part of Montgomery Ward & Co. An epitome of the report made by the Chemical Laboratory of the A. M. A. is the most terse and able way to inform the general public exactly how valueless is this so-called bargain service.

It is too a glaring example of how sadly is needed eternal warefare against the *lay entrance into the practice of medicine,* and the extent of the *conceit of the laity* at large to outdo the doctor in his scientific knowledge and its application. There is perhaps no more presumptuous habit on the part of mankind outside of the inevitable, perennial appearances of quack religionists claiming to be the new Messiah. The incalculable injury done to incalculable persons by self medication under incompetent advice from

ignorant advisers is far greater than the war outrages.

This sortie of Montgomery Ward & Co., into medical practice is further complicated by the fact that its own laboratories—which by the way are not conducting this urinalysis service—have consulted frequently the A. M. A. laboratories in regard to the merits of some of the patent medicines sold by its catalogue.

The A. M. A. had four samples of previously tested urine sent to Montgomery Ward & Co., according to the routine asked for in the catalogue. The returns came from the Universal Research Laboratories of Minneapolis, Minn., *and in no case did the results tally with the analyses previously made by the A. M. A. from the same samples of urine.*

H. W. Darby is accounted the head of the Universal Research Laboratories and of him the A. M. A. reports:

The name of the medical director of the laboratories, H. W. Darby, has long been in the files of the Bureau of Investigation of the American Medical Association. Concerning his activities, the Bureau has furnished the following memorandum:

"According to the records of the Bureau, H. W. Darby was born in 1876. The Bureau has nothing to show that he was ever graduated by a reputable medical college. It is, however, true that he is licensed to practice medicine in Minnesota, the license having been issued in 1898. The Bureau has in its files a pamphlet put out by the exploiters of a nostrum for diabetes, known as 'Expurgo' and later called 'Sanol. One of the testimonials in this booklet praising the stuff is by Darby. Darby was the physician in charge of the 'Loring Park Sanatorium' of Minneapolis. This sanatorium was run by a man who was exploiting an alleged cure for diabetes called 'Jamun Compound,' which apparently was used in the sanatorium. The Minneapolis newspapers for April and May, 1918, recorded the indictment of Darby for selling habit-forming drugs. According to one paper, during 1917 Darby purchased 119 ounces of cocaine, 113 ounces of morphine and 11,700 heroin tablets. This is the man selected by Montgomery Ward & Co. to supply customers with reports in matters which may critically concern both health and life."

A bank reference is given by the laboratories as a sign of their competency to test urine, adding, as it were a fresh burden upon the banking system of a country already overburdened by its duty of analyzing the economics of the world—that of testing the urine of any and all citizens of the commonwealth. Truly a piling of Pelion upon Ossa.

Portions of the advertisement in the Montgomery Ward & Co. catalogue as to this service may prove interesting:

"Medical authorities agree that an analysis of the urine, even though the person does not feel ill at the time, often reveals sure signs of disease preparing to strike, and enable you to take prompt preventive measures and correct faulty living habits in time.

"To aid our customers in the preservation of health, we have decided to place this service within your reach in a way that spares you all embarrassment and affords you the services of experts who are specialists in this particular branch of medical work; and we have made the cost so moderate that you owe it to yourself and your family to make sure all is well."

The directions for obtaining this mail-order medical service are simple:

"Use a regular Order Blank to order this SERVICE, sending money with order. A special container in a mailing case will be sent to you. You mail it back with a sample of the urine. The laboratory then makes a careful analysis, covering 29 chemical and microscopical tests. You will receive a detailed report showing the complete findings which you can then submit to your physician."

A typical "reply" letter reads:

"Your urinalysis has been completed and we are enclosing your report herewith.

"In checking your report we note indications 5, 25 and 26 show a little faulty but you can correct these, if you will follow directions set forth below the faulty indications, which are self-explanatory.

"Your report is very encouraging nevertheless it is a good idea for you to have these examinations from time to time to check yourself and protect your health."

And again:

"One of the specimens of urine submitted had been found normal by a competent laboratory pathologist. The Universal Research Laboratories, working for Montgomery Ward & Co., reported that this specimen contained a slight trace of albumin, leukocyte cells, and a few epithelial cells; that these conditions are faulty but one could correct them by following the directions. Following each test mentioned in the urinalysis report enclosed with the letter (see insert) appeared directions. In the case of albumin:

"Its persistent occurrence if casts are found indicates inflammation of the kidneys (Bright's Disease or other serious condition). Mild congestion may cause it to appear temporarily. Any appearance calls for further analysis at intervals. If persistent confine yourself to vegetable and liquid diet, eating little or no meats or whites of eggs. If this does not eliminate it promptly, consult your physician."

Under items 25 and 26, epithelial cells and leukocytes:

"Epithelial Cells.—Normally a few squamous cells may be present. These cells usually accompany inflam-

matory conditions of the genito-urinary tract and if in excess require the attention of your physician."

"Leucocytes (Cells).—These are white blood cells; the defenders of repairmen of the body, and appear when the bladder, kidneys or ureter are inflamed or injured by disease. Their presence in small amount are found in health at times."

U. S. PUBLIC HEALTH OFFICIAL STATES STATE MEDICINE APPEARS AS A MISERABLE MAKESHIFT.

A retort courteous to the accusation of excessive medical cost comes now from medical director, A. J. McLaughlin, of the United States Public Health Service. For Dr. McLaughlin declares aptly that the best modern medical care is worth all that it costs, provided the cost can be afforded.

The point of variance would seem to be not how expensive is the best but how much of the best is necessary.

"There has been a lot of loose talk and inaccurate statements in regard to the cost of medical care," Dr. McLaughlin declared, "the cost has not increased out of proportion to the increased cost of other services. Medical care has been expanded and amplified, and this necessarily increases the cost."

Collective action in preventive medicine by organized medical societies was barely in evidence until the decade beginning about 1920. The practicing physician had been taught curative medicine only—to care for the sick and injured. Only within the decade mentioned has preventive medicine been taught in an effective manner to undergraduate students of medicine, and only still more recently has medical economics come in the calculations of the average medical man.

The development of preventive medicine in health departments since 1900 has been rapid, through the vigorous efforts of health officers. Even more enthusiastically unofficial agencies, by educational propaganda, have insisted on prevention and the development of facilities for prevention rather than cure.

The medical profession holding to its primary business of curing the sick and treating the injured, did not establish clinics for the examination of apparently healthy people or to immunize or vaccinate against disease except upon individual request. Here was a rare opportunity for the commercial opportunist.

Official and unofficial health agencies, in their enthusiasm, and in the absence of such facilities, established clinics and created in the public mind by education a demand for protection against contagious diseases by vaccination or immunization and for the discovery and early correction of disease and defense. Unofficial agencies are able to secure large sums. Great foundation allot large funds for preventive work, educational and otherwise. Official health officers secure for their departments large appropriations to prevent diphtheria, typhoid fever, tuberculosis, and later, venereal diseases.

So between the physician who is a health officer and practices preventive medicine and the physician in private practice who practices curative medicine, developed a chasm.

In certain diseases where treatment is necessarily a part of prevention, the doctor in private practice has seen clinics develop and expand which took his patients away from him until a new era was begun educationally. The undergraduates in Class A medical schools are now taught preventive medicine; and the majority of physicians in practice who had no such instruction are willing to concede that preventive medicine is part of their job, but are slow to organize and establish the facilities (clinics) necessary to do the work on a large scale.

Forty years of evolution and development in public health work brought public health administrators to the point where they know what ought to be done and the best way to do it.

Unfortunately the medical profession's organization is little more than provision for periodic meetings for the reading and discussion of papers on scientific subjects. Exaggerated sense of ethics makes many physicians shrink from anything like business organization. Organization on a business basis, provision of clinic facilities, regulation of fees on a sliding-scale basis according to income would seem to be essential if State medicine is to be prevented.

The medical society of Kings County (Brooklyn), the New York Academy of Medicine, and the Wayne County (Detroit) Medical Society have taken steps toward business organization with a view toward social service as have a few others in large cities. County medical so-

cieties are unorganized except for periodic meetings for the presentation and discussion of scientific papers. Their business side or their real obligation to establish facilities for the best preventive medical and surgical advice and treatment at a price that each citizen can afford, is entirely neglected.

There is much loose talk and inaccurate statement in regard to the cost of medical care. The cost has not increased out of proportion to the increased cost of other services. Medical care, especially early diagnostic procedures and treatment, expanded and amplified by the discovery of more precise methods of diagnosis has become exceedingly complex. This necessarily increases the cost of examination as compared with that of 40 years ago. Then the physician used only his own senses and perhaps a stethoscope.

The problem in large cities is principally one of organization and adjustment of modern facilities which already exist. The problem in the small city, town, and rural area is the necessity for these facilities which do not now exist. Next to the need for out-patient facilities and modernly equipped clinics, *the greatest need is for more and better trained physicians.*

One-third of the towns of 1,000 population or less in 1925 had no physician. In 1906 there were 33,000 physicians in such small towns; in 1924 there were 27,000— a decrease of 13 per cent. The average age of these physicians in 1925 was 52 years. When they were graduated preventive medicine was not taught nor was it considered a part of a practicing physician's work. Present-day methods of precision in diagnostic technique and modern equipment were unknown.

The young medical graduate of a class A school today is trained in preventive medicine and is taught to use the modern instruments of precision in diagnosis. He learns to depend upon the modern facilities which are used in his college and hospital training. These are available in the city, and, hence, he stays in the large city.

He will not go to the small town because these facilities do not exist and he cannot practice medicine in the way he has been taught. Here again the remedy is obvious—*there must be decentralization of modern diagnostic and treatment facilities from the large cities and medical centers to the small city.*

It is not sufficient to have all facilities for the best preventive medical and surgical diagnosis, advice, and treatment available in the large city or medical centers of a State. The citizens living in small cities, in towns, or rural areas are, in common justice, entitled to the use of such facilities quite as much as the wealthy or the poor living in the large city or medical center. The county medical society should establish or cause to be established in the county seat and in populous counties, in other small cities out-patient clinics completely equipped for early diagnosis and treatment. They might fix the fees on a sliding scale according to income—for example, dividing the clientele into three or more classes, such as:

1. The indigent to be paid for by the county at a fixed rate.
2. Those earning less than $1,500 per annum to pay a minimum.
3. Those earning from $1,600 to $2,400 per annum to pay a higher fee.
4. Those earning over $2,400 per annum to pay full fees.

Fees for house or office visits might be determined for these same classes. Facilities for diagnosis or treatment of the out-patient clinic or hospital should be available for all members of the medical society and the fees collected divided pro rata.

The term "State medicine" commonly signifies the bogey that continually confronts the practicing physician. State medicine means the assumption by the Government (Federal, State, or municipal) of the obligation to give every citizen or group of citizens medical and surgical care by physicians who receive no fees but are paid a salary by the Government. In general, this would mean the State government, but *the same results to the practicing physician are possible by the encroachments of private corporations which assume this obligation for their employes, using salaried physicians to do the work.*

Advocates of State medicine claim that the defects noted above in public health activity would be corrected by State medicine, because medical and surgical and, presumably, preventive advice and treatment would be available to

all citizens without cost. Theoretically, under such a system treatment might be available to all, but what kind of treatment?

If a crowded office in which the panel doctor gives a prescription, rushes one patient out, like a barber, calls "next," can satisfy the needs of scientific medicine, then the system might suffice. The average American citizen knows that he is entitled to better treatment than this. He has been educated to the point where he knows something of the newer methods and equipment used in modern diagnostics and treatment.

"To me State medicine appears as a miserable makeshift," says Dr. McLaughlin. "It is un-American, ultrapaternalistic, and destructive of *self respect in both doctor and patient.*" It is a failure in Germany, in England and other European countries. It is, from an American viewpoint, a pauperizing influence, wrong in principle and doomed to failure in practice if we should ever be foolish enough to try it.

Proper organization of county medical societies will make state medicine impossible, enable the physician to retain his self respect, and preserve that priceless, intimate, confidential relation that should exist between physician and patient.

Dr. McLaughlin's advice is both clear and logical and is in conformity with the opinions of our country's outstanding economists. His opinion is especially opportune in this age of unsettled medical economic and social problems. This coming from an official of the U. S. Public Health Service who is in a position to see the disastrous results of politically controlled bureaucratic medical or other services should cause us to stop, look and listen before any of us should decide to advocate a socialized system of State subsidized medical service in this country. God deliver our people from a universal state controlled medical service.

THE GOVERNMENT HAS BUILT ENOUGH VETERANS' HOSPITALS

In a comparatively few years the Government will have on its hands extensive hospital facilities and no use for them. The *Washington Post* in commenting on this disastrous situation under the heading "Veterans' Hospitals" annotates as follows:

"In an address before a section of the American Medical Association this week Secretary Wilbur expressed a belief that the Government has built enough veterans' hospitals. His advice is worthy of serious consideration.

"During the brief period since the World War the Government has invested enormous sums in hospital facilities. Las year Congress voted to spend more than $20,000,000 for new hospitals and additions to old ones. A program of construction designed to extend over five years was adopted. At that time Gen. Frank T. Hines, veterans' administrator, made clear that no new hospitals were needed to take care of veterans disabled by their war service. Congress voted this additional sum on the theory that the Government ought to take care of needy veterans who are sick regardless of whether their ailments have any connection with their service in the Army or Navy. A slight extension of this theory would offer free hospitalization to any citizen who might be in need.

"In spite of that liberal program enacted into law only a year ago, bills calling for the construction of about thirty more hospitals have been introduced in the Senate. If the House is running true to form it will produce several times that number of hospital bills, with dozens of congressmen, mayors, governors and chambers of commerce pressing for their adoption. A most serious situation is thus presented.

"To make the picture of folly and extravagance complete it is only necessary to add that the present law encourages veterans to stay in hospitals and soldiers' homes even after they are well and capable of caring for themselves. Disabled veterans of the World War may go into a hospital for treatment, having all their expenses paid, and still draw their full compensation. It is to their advantage to stay as long as possible. As a result these institutions are being filled up with men who are completely rehabilitated, but who have no incentive to assume life's responsibilities so long as Uncle Sam will give them board and lodging as well as liberal compensation.

"Administration leaders made an effort last year to cut down the allowance to veterans while

they were in hospitals and homes, but they were frustrated by the so-called Progressives of the Senate. Until such an amendment is adopted the Government must squander taxpayers' money and demoralize veterans.

"Whence will this vicious circle of veterans' legislation lead if Congress continues to spend more for hospitals and then liberalizes the restrictions upon veterans who may use them? *When the peak of disability from the war has passed, the Government will have on its hands extensive hospital facilities and no legitimate* use for them. The temptation in Congress to open them to any one in need of medical care will be great. In this situation lie the seeds of a bureaucracy more formidable than any in which the Government has indulged. It is time to call a halt to this political stampede to win the soldier vote."

ON TO SPRINGFIELD

The complete program of the Eighty-second Annual Meeting of the Illinois State Medical Society appears in this number of THE JOURNAL. The meeting will be held on May 17, 18 and 19, and has been arranged so that it will appeal to the entire membership of the Society, as well as for the many guests who will be present.

The Committee on Arrangements at Springfield has left nothing undone to make the meeting and entertainment attractive. The Annual Secretaries' Conference will be held on Tuesday morning at 10:00 o'clock, and the program should appeal to every officer of Medical Societies, as well as to the membership as a whole.

At noon Tuesday three prominent speakers will address the members. Veterans of all Wars, and members of the American Legion, at the Veterans' Luncheon, to be held at the Abraham Lincoln Hotel. The speakers, Col. Hugh Scott, Manager, Edward Hines, Jr., Hospital; Edward Hayes, Past Commander, American Legion, Department of Illinois, and Dr. H. H. Shoulders, of Nashville, Tennessee, author of the well-known "Shoulders Resolution," approved by the A. M. A. last year. A rousing meeting should be the result of the efforts of the Veterans' Service Committee, and local Committee on Arrangements. On Tuesday afternoon, May 17, four Sections will unite in holding a joint session with all speakers invited guests of the Society. These various subjects have been carefully selected, and will be of interest to all practitioners of medicine, regardless of their specialty.

The general opening meeting of the Society will be held on Tuesday evening at 7:30 at the Elks Club Auditorium. The principal address will be made by Dr. E. H. Cary, President, American Medical Association, Dallas, Texas. This meeting is open to the public, and the address of Dr. Cary will be of interest to all.

All Sections will be in session on Wednesday morning, and following the orations on Wednesday afternoon. The Oration in Medicine and Oration in Surgery, will be given following the President's address at 1:00 P. M. Wednesday.

The President's dinner, honoring our President, R. R. Ferguson, will be held on Wednesday evening, May 18, at the Abraham Lincoln Hotel. All past presidents will be guests of honor and there will be no speeches that evening. Suitable entertainment of an interesting nature has been arranged.

The Sections on Medicine and Surgery will have a joint session on Thursday morning, to consider various phases of Pediatrics from their medical and surgical aspects. The other Sections will also conclude their programs that morning.

The first meeting of the House of Delegates will be held at 3:00 P. M. Wednesday and the second meeting, at 8:30 A. M. Thursday, in Columbus Hall, Knights of Columbus Building.

All delegates elected for the meeting should be present, or see to it that their duly elected alternate is given the proper credentials so that he may be seated as a delegate.

The railroads are giving the Society the benefit of a reduced rate by rail to Springfield and return, on the certificate plan, which is thoroughly explained elsewhere in this JOURNAL.

NOW IS THE TIME FOR ALL GOOD MEN TO COME TO THE AID OF THEIR SOCIETY by arranging to attend the 82nd Annual Meeting, at Springfield on May 17 to 19, 1932.

Adopt this slogan, "I'll Meet You in Springfield."

A MESSAGE TO OUR EXHIBITORS

The Illinois State Medical Society is very anxious to do everything possible to aid in making your exhibits successful ones at our meeting. The exhibits are carefully selected, and none but recognized reliable concerns are permitted to have an exhibit.

The Exhibition Hall is in the new Knights of Columbus Building, Springfield, and all Section Meetings, and the General Sessions will be held in the same building, a most desirable arrangement.

The electric current available is 110 and 220 volts, 60 cycle A. C. The Society will have electricians available to give you special services that may be desired. The booths are uniform, attractive, and will be ready for you to occupy them on Monday morning, May 16th, 1932. We are anxious to have every exhibit completely installed on Monday evening, and the exhibition hall will be open Monday night to suit your convenience.

The Springfield Transfer Company will receive all shipments sent in their care, hold them until Monday morning, then place them on the floor of the exhibition hall. They will also arrange to ship all exhibit materials back to your address after the meeting, if you desire it.

Suitable uniform signs will be available for all exhibits at the meeting. Night watchmen will be on duty all night during the meeting, for the extra protection of your exhibits.

Hotel facilities in Springfield are adequate for the care of all visitors during the meeting. You may make your reservation either directly with the hotel, or through the Hotel Committee, Dr. Walter G. Bain, Springfield, Chairman.

Representatives of the Committee on Exhibits will be at the Exhibition Hall all day Monday, May 16th, to aid you in every way possible, in getting your booth satisfactorily arranged.

If you desire to rent additional furniture, rugs or lamps, arrangements can be made accordingly, after you arrive in Springfield. If you desire any additional information, same can be received from Dr. Don Deal, Chairman, Committee on Arrangements, Springfield, or from the State Medical Society Secretary, Dr. Harold M. Camp, Monmouth, Illinois.

Yours for a successful exhibit,

"Illinois State Medical Society."

MOST OF ALL DO WE SHRINK FROM THE POSSIBILITY OF A FEDERALIZED MEDICAL PROFESSION

An editorial "PAY THE PHYSICIAN" in the April 16 issue of the catholic weekly "AMERICA" is a constructive defense of the medical profession and a clear cut exposition of our every day problems. The editorial is so at variance with numerous lay magazines which have allowed feature writers and day dreamers the use of their valuable periodicals for the publication of articles lampooning Doctors and belittling medical science generally. We quote:

PAY THE PHYSICIAN

On the authority of Holy Writ, honor is due the physician. But that honor is empty indeed, unless it is accompanied by payment of his reasonable fees. Secretary Wilbur and the Committee on the Costs of Medical Care have been studying this problem for nearly four years, and it is hoped that their final report, to be issued in the Fall, will give a foundation on which a solution can rest.

Up to the present, however, their partial reports have imbued the public, contrary to the wish of the Committee, with a sense of injury. The belief that physicians' fees and hospital charges are generally exorbitant, has been deepened. Nothing that the Committee has issued affords ground for this error. That some physicians have the spirit of the huckster and the usurer is probably true, for the spirit of commercialism knocks at the door of all the professions in these days. It is certainly true, moreover, that a few hospitals in every large city are conducted on an exclusively commercial basis. But that venal physicians are in a minority is certain. The profession, as a whole, is forced to make shift with an income that is "uncertain, irregular, and low." There is no rise to affluence on that kind of income. The physician has borne more than his share, perhaps, of the burdens of the depression.

We properly insist on the right of the worker to a living wage, but we must also remember that the professional man has the same right. Unlike the worker, however, he is barred by the ethics of his profession from demanding it. He cannot go on a strike, or picket the house of a defaulting patient. He must take what is given him,

small as it may be, and, in the language of the day, like it.

Balancing the rightful claims of the physician against the empty pockets of the patient, we come upon a pretty problem. Can it be solved by health insurance, compulsory or voluntary? What part ought the State to take in the matter?

"When it is remembered that what we spend on patent medicines every year would easily take care of the medical bills of the whole country, compulsory insurance has its appeal. But we shrink from the possibility of a State-controlled system of medicine, which the compulsory-insurance plan seems to imply. Most of all do we shrink from the possibility of a Federalized medical profession. In its disastrous effects, that would be comparable to a perennial epidemic."

DOCTORS ARE USED TO BEING MISREPRESENTED, AND ARE TOO BUSY TO COME TO THEIR OWN DEFENSE

In a recent number of *Harper's Magazine* a doctor's wife endeavors to give a correct view of some of our problems.

The New York *Times* under the heading of "The Doctor's Side Of It" offers the following:

THE DOCTOR'S SIDE OF IT

Public interest in questions of health and the cost of medical care has probably never been keener than at present. In the general anxiety to provide for the destitute, criticism often falls heavily upon the doctors. In a recent number of *Harper's* a doctor's wife endeavors to give a correct view of some of his own problems. Doctors, she asserts, are used to being misinterpreted, and are too busy to come to their own defense.

The doctor has only one commodity to sell—his time, valuable because of his brains, training and experience. Unlike the manufacturer, he cannot go into mass production of his goods. Training in college, medical school and hospital, and the slow process of building up a practice fill the years until he is 38 or 40. In the next fifteen or twenty years—for the average life of a doctor is 60 years—he must provide for old age and his family if he is ever to do it. He has endless duties besides seeing patients. He must sit on various committees, be active in medical social service, go to distant cities to make addresses, attend medical meetings and keep up with modern medical literature, be present at luncheon or dinner conferences. He is often teaching fifteen or twenty hours a week. He must make his living in the few hours a day that are free from outside activities.

The very fact that the public expects full knowledge and successful treatment from any doctor who is called in is a high compliment to the profession. The patient who complains that three or four doctors were needed before one was found to make a correct diagnosis ignores the time element. Perhaps the first doctor at the later date would have been quite as accurate in interpreting symptoms. The scope of medicine and surgery has so greatly increased in recent years that a diagnosis is no longer a matter of looking at a tongue and taking a pulse. Much unwarranted criticism of physicians may be laid to the fact that each man's health is to himself "so emotional and personal an affair" that he can scarcely judge his doctor with disinterested intelligence. A throbbing earache will warp the soundest judgment.

LUCIUS HENRY ZEUCH, 1874-1932 —A TRIBUTE

Dr. Lucius Henry Zeuch is dead. And his passing takes from us a physician of parts, an historian of genius, and above all, a friend and a man.

Proving the past, pacifying the present and prophesying the future, the historian must make treaty with the gods of luck and patience, and in his own soul know the kindling fire of genius.

It is correct to say that historians are oftener born than made; since those who would interpret yesterday in the light of today and leave both elucidated clearly for all the tomorrows, need the wisdom of the serpent and the faith that can read mountains even if it does not move them.

Lucius Henry Zeuch lived rich in all these qualities. A month ago brought his untimely death. Dr. Zeuch stands recognized as a permanent authority upon certain aspects of Americana, to which his own most loved contribution was the first volume of "The History of Medical Practice in Illinois." At the time of his death, this native Chicagoan was engaged upon the second volume in what was not only a history of medical development in the fertile northwest val-

ley of the Mississippi but a most excellent epitome of the synoptic history of the commonwealth. Another noteworthy contribution of Dr. Zeuch to the annals of American history is his tracing of the location of the Chicago Portage Route of the seventeenth century. In connection with his long time friend, Robert Knight, C. E., Dr. Zeuch traced the original course of the ancient Chicago portage—the one used by Marquette, Joliet, La Salle and Tonti. This elusive, almost baffling task competent authority holds to have been most valuable research, and a measure of devoted ability and uncanny skill. They also located Mt. Joliet.

A man of many facets, ever since his graduation in 1902 from Harvey Medical College, Dr. Zeuch continued as a tireless worker at the tasks of Aesculapius. During 1908-9 he served an interneship at Grace Hospital, and in 1911 was graduated from the College of Medicine of the University of Illinois. Five years this practice was in Indiana.

Surgery was his preference, and in 1929 Dr. Zeuch invented a surgical tenaculum and a dilator. Two of his best known brochures are those in 1919 on "Robert Jones Operation for Talipes Equino Verus" and in 1922 on "The Subcutaneous Rupture of the Trachea." In September, 1930, before the Eighth International Congress of Medical Historians at Rome, Italy, Dr. Zeuch's paper, "Illinois Pioneers of Medicine" was received enthusiastically as a tribute to the profession in the new continent and as a memorial to those hardy missionaries who opened up New France, and in the opening ministered to the bodies as well as to the souls both of their own retinue and the Indian savages. It was always the hope of Dr. Zeuch that fate would permit him time enough to delve into the habits and the customs of the prehistoric men of this country as well as into its geological history. It is America's loss that this wish was denied.

For history, it must be understood, was the soul passion of this excellent physician and splendid husband and father, and its compilation his especial psychical gift.

Historical research was to Dr. Zeuch the rainbow's pot of gold. It was his refreshment and his solace. A deeply religious man, and a thorough patriot, he neglected no duty and found in his pleasure twice its worth. Every word of his research was of practically geometric accuracy.

Numerologists like to state that as he was born under the "Leo" sign, Dr. Zeuch had all the bravery and hardihood that come to those who are "Leo-ites." Suffice that from his father, Henry Zeuch, a native of Kassel, Germany, and from his mother, Elizabeth Meyer, a native Chicagoan, though of German descent, the lad, who was born on August 26, 1874, inherited habits of perseverance, thrift and industry and held accuracy as a fetish. Only 29 was he when he married Marguerite Harriet Ibsen on Jan. 7, 1903. They had no sons, but two daughters, Lucille and Harriet, her mother's namesake.

As man, physician and historian, Dr. Zeuch knew an interesting a colorful, and above all, a useful and inspiring life. The best legacy he has left is not that within the volumes of his writings, priceless as they are, but rather in his example of what value a man can extract from 24 hours a day—what boon to his fellowmen.

Since historians are born, not made, and the same has been said of physicians, then the gods of good gifts stood double guard over the cradle of Dr. Lucius H. Zeuch, an able, a sought after and a loved practitioner of medicine and a competent compiler of history. And, as those who have played at that game know well, the compilation of history, following the tedious gathering and verifying of facts is herculean labor.

To trace his career is not amiss, especially as to the portage.

In the eighties the teachers of the old Franklin public school of Chicago instilled into the minds of two pupils, Lucius H. Zeuch and Robert Knight, a love for historic traditions. To manhood both boys carried a desire to see the places they studied about in their boyhood days; some day they hoped they would save enough money to visit the shrines of American history. Zeuch became a physician; Knight an engineer. During their years of small means they satisfied their geographic cravings by riding long distances on bicycles to study geologic formations at Chicago's back door, visiting the nooks, coves and prehistoric beach ridges along the Des Plaines river. They remembered the stories of the intrepid explorers of the seventeenth century and tried to envision the wilderness as it appeared to the early pathfinders. As they became successful financially they purchased motor cars

and traveled long distances to the East to get close to the cradle of the republic. From Quebec to Florida they visited battle fields on the coastal plain and studied the strategy of the generals engaged in the conflicts.

After one of these excursions to the east they sought the Chicago portage of the dim past, that brought men of early times to Chicago to establish trading posts. The two investigators visited the abandoned arm of the Des Plaines river where they believed the old waterway had its origin. Finding a little inlet at the Des Plaines river and Forty-ninth street they assumed this to be, in the absence of present day means of travel, the best way for those using canoes to have reached Chicago. Not having read extensively of the early trade route that meant so much to early Chicago, they began to look for information about its location and to their astonishment this statement appears in the book of that great historian, M. M. Quaife's "Chicago and the Old Northwest." The comparatively undeveloped state of the field of American historical research is well illustrated by the fact that despite the historical importance of Chicago Portage no careful study of it has ever been made. The student will seek in vain for even an adequate description of the physical characteristics of the portage. Zeuch and Knight tried to prove that the little creek they had visited was the true *raison d'être* of the French explorers. In the quest of this ancient gateway to Lake Michigan they found documentary evidence very misleading, as travelers had recorded the impressions at the time of passing, and as the waterway they have traversed was through a slough at times filled with water and at other times was almost dry, the proving of its location by this means was unreliable. These researchers began an unparalleled search for early surveys that alone would show the physical features of the country before it was changed by the hand of man. City, State, National and European archives were combed for surveys and surveyors' field notes with which the problem that had engaged the attention of researchers of the Chicago Historical Society since its inception in 1853 without avail, was solved. In 1928 after ten years of effort results of this labor of Robert Knight's and Dr. Zeuch's were published by the Chicago Historical Society under the title *The Location of the Chicago Portage Route of the Seventeenth Century.* Commenting upon this research, M. M. Quaife, the eminent historian, states "as elaborated it constitutes an admirable piece of local historical investigation and to the reviewer it seems highly unlikely that any future student will feel the need of repeating this study. The authors who produced it and the Society which sponsored it may alike take pride in their work."

The Sanitary District of Chicago, owners of the land at the west end of the Chicago Portage, had made plans to erect a sewage disposal plant in the Portage creek area. If they had done this they would have destroyed this primeval gateway to Chicago for all time. Steps were taken immediately to prevent what seemed to be an irreparable loss to posterity. Enlisting the aid of Dr. Otto L. Schmidt, then president of both the Chicago and Illinois State Historical Societies, the trustees of the Sanitary District of Chicago were prevailed upon to hold off using the site. Recognizing the historic value of the region the Sanitary District altered their plans and placed their plant in Stickney east of the area.

After years of missionary work necessitated by changes in officialdom of both the Sanitary District and the Cook County Forest Preserves due to election and with the recommendation of the Regional Planning Association a way was found in 1929 to grant legally a lease of the premises to the Forest Preserves by the Sanitary District and perpetual care of this hallowed gateway to our beloved city is thus assured. The Chicago Historical Society erected a marker, designed by Dr. Zeuch, at the west end of the Chicago Portage, on May 16, 1930.

In the April, 1930, issue of the Illinois State Historical Society journal there is another research by Knight and Zeuch entitled *Mount Joliet: Its Place in Illinois History and Its Location.* There are their findings concerning that ancient landmark that aided navigators in estimation of distances in those days when Des Plaines river travel was at its height. This and previous researches bring a method hitherto not employed by historical location investigators. By using old surveys drawn to a scale and by photographing them to match a modern map, accurately scaled and superimposing the old map

upon the modern map they can re-plat a given landmark definitely.

Dr. Zeuch was born in Chicago in 1874 and has been practicing since 1902, five years of which he served in Wheatfield, Indiana. His training in historic research enabled him to write the *History of Medical Practice in Illinois Vol. I.*, which was published by the State Medical Society in 1927.

Some idea of the distances and places necessary to cover in gathering material about the early explorers and missionaries of the Illinois country can be gleaned from the fact that all of these pathfinders were Europeans. This necessitated the combing of foreign archives in 1924 by Dr. Zeuch for source material, such as maps and descriptive data.

A complete survey of all the trading posts along the St. Lawrence river, Quebec, Montreal, Three Rivers, La Chine and other points along the valley of that stream. Then Kingston, Ontario, which was Fort Frontenac, the headquarters of Governor Frontenac, Mackinac Island, St. Ignace, and all points associated with the ministry of Father Marquette among the Indians as recorded in his journal, were visited. Following the footsteps of this saint of the wilderness stops were made at De Pere, Portage, Wisconsin, and the confluence of the Wisconsin with the Mississippi river in Wisconsin; the mouth of the Des Moines river, Cahokia and Kaskasia the second in the American Bottom; the mouths of the Ohio, Arkansas and the Illinois rivers, Fort Creve Coeur (East Peoria), Starved Rock (Ft. St. Louis), the confluence of the Des Plaines, the Kankakee with the Illinois, and intensive resurvey of the physical features of the Chicago area and the foot of Lincoln street on the south branch of the Chicago river, which last there investigators believe to be the most likely site of Father Marquette's cabin of 1674-1675. Cape Hayes (Loyola University site), Racine, Kewanee and Sturgeon Bay associated with the return trip of the sick priest whose life was spent in this service to humanity and finally a study of the place of his death at Ludington, Michigan.

To study the portages or the "keys of the continent," the Lake Erie, Lake Chautauqua-French Creek, Allegheny river, the Lake Erie, Maumee-Wabash river, the St. Joseph-Kankakee river, the Fox-Wisconsin river, necessitated traveling great distances. Passage from the Great Lakes to the Mississippi river had to be made over the ridges that separated the headwaters of the streams flowing into the one or the other. To obtain information about the trade and traders using these early modes of travel all the frontier forts that were established to protect this primitive commerce were re-located and their history studied; Forts Howard, Winnebago, Crawford, Armstrong, Edwards, St. Louis, Gage, Kaskaskia, Massac, Clark, Vincennes, Knox, William Henry Harrison, Ouatanon and the remains of the trails, the most of which have been almost totally obliterated. By the procuring of old surveys their positions were ascertained. All of this knowledge was correlated to the documentary evidence extant to clear up controversial points that have crept into the literature because of insufficient source material. Needless to add that this monumental work consumed most of the leisure hours of the investigators. They found ample compensation in the consciousness that had they not done it no future historian could have completed the survey for the changes that the progress of the times have almost entirely obliterated the remaining landmarks which alone can identify the shrines of the past in the Chicago area.

For their contributions to history Dr. Zeuch and Mr. Knight were made honorary life members to the Illinois Catholic Historical Society and were placed on the honor role of the Chicago Historical Society.

On the Surgical Staff of Norwegian-American Hospital, Dr. Zeuch was also member of the Chicago Medical and the Illinois State Medical Societies, Art Institute, Field Museum of Natural History, Chicago Historical Society (on honor roll for historical research).

Of Dr. Zeuch it has been written wisely: "To have known him was a pleasure! The outreach of his soul pervaded the atmosphere about his associates. He was like the Orloff diamond, i. e., had many facets, each reflecting a different characteristic of his life. He was charitable to all; critical in demanding a high standard of life; helpful to young men in giving of his rich experience; an unusual student of therapeutics, searching the fields of ancient and modern medicine for an outstanding knowledge of the application of remedies in the relief of disease.

He had rare judgment in applying his knowl-

edge of pathology and diagnosis and was equally versatile in any angle of practice.

He was a student of human nature and exercised a magnetic influence over his large clientele. Once his patient, few ever left his care. Many became intimate friends. In his passing, the world has lost a typical all-around family doctor, of which but few remain. "He was a man of vision and courage. One might, perhaps, have questioned at times the wisdom or the opportuneness of some particular vision, but no one ever doubted the courage and optimism with which he undertook to put his vision to a practical test, once he had decided upon a course of action."

INCREASING AUTOMOBILE FATALITIES

Automobile deaths in Chicago for the first three months of the year 1932, was 190, breaking all previous records. For the same period of 1931, was 172 and the total for the year 1931 was 832, and the total deaths for Cook County for the year 1931, was 1,305, and in spite of added safety measures, this figure sets a record. In 1930, the record year before that, the death sum from auto accidents was 1,100; the 1931 figure is nearly 19% more than the 1930 figure.

The story is the same over the United States at large. The piling up of deaths and injuries from accidents that are preventable is hard to understand at a time when statistics show that people have more concern than ever about preserving life by preventing disease. Pedestrians and drivers should watch they're going. Why won't they be more careful?

Is it because traffic in our big cities is growing denser? Report of Chicago's Safety Commission says no. This report says the greatest need is public education and recommends that all teachers in the public school system begin by impressing caution on their pupils. We think American teachers have been doing this. Between 1927 and 1930, the auto accidents among children of the country fell off by 19%.

We can't blame it on the children; we must blame it on the adults. The first thing we must do is to realize how serious the case is. The Chicago Safety Commission report says, "If all the lives lost in automobile accidents were lost in one catastrophe it would be remembered for years to come. But because they occur at various times and different places during the year no one seems to be getting excited about it and little is being done to prevent the continuance of this tragic situation.

That the automobile is as deadly as war is readily seen by comparing the casualties of the late war with a recent corresponding period of time. In eighteen months of the world war 50,510 members of the American Expeditionary forces were killed in action or died of wounds, and 182,674 were wounded. In the eighteen months ending December 31, 1931, 53,650 of our population were killed in automobile accidents and 1,576,840 were injured.

Public Health and welfare as well as financial interests in community safety extends to every citizen. Apart from accident victims and their families and their affairs, chief economic sufferers from the continuously increasing number of highway casualties are hospitals and physicians. Reliable data is readily available showing that the medical profession and hospitals of the United States are being stung to the tune of $25,000,000.00 annually in caring for victims of automobile accidents.

It would seem that in view of the unfair ratio of expense of this preventable item of doctors' and hospitals' deficit that is borne by the profession and the hospitals that the medical profession and hospital heads and economists should find some conference ground whereby the burden might be equalized. If we cannot rid the community entirely of automobile accidents—though undoubtedly present conditions can be minimized, something certainly can be done to make the resulting economic burden lighter upon the medical profession, hospitals and caretakers generally.

MOST GOVERNMENTS ARE INEFFICIENT OR CORRUPT—SOME ARE BOTH. (Continued.)

We come now to what is probably the weakest spot in the government—the judicial interpretation of the laws and their legal administration. Some of the worst features in the administration of criminal justice in particular, in most of the states and sometimes even in the federal courts, result from countless postponements, hair-splitting technicalities, innumerable appeals, and nu-

*Fifth installment of Edward H. Ochsner's articles on Medical Economics.

merous reversals with its resultant delays and miscarriage of justice. Volumes could be written on this subject alone but one illustration of each method of delaying justice will have to suffice.

A known gunman has been indicted six times in the last eighteen months. Every time he has been released on bonds he has been involved in new crimes. In spite of all this he was given thirty continuances on the first indictment. Commenting on this and many similar cases, Henry Barrett Chamberlin, Operating Director of the Chicago Crime Commission, recently made the following statement:

"Repeated postponements in the trial of a criminal case is the most serious obstacle in obtaining a just verdict."

The following is an illustration of how intense legalism and the glorification of technicalities only too often defeats justice. The case is taken from the decision of the Illinois Supreme Court, Volume 258. This decision was handed down many years ago but it still stands. An eleven-year old girl was dragged into a basement apartment and mistreated by a fifty-year old man. He was found guilty and sentenced to the penitentiary for five years. The Supreme Court reversed the sentence not because of any doubt concerning the defendant's guilt but because the child's first name had been set forth as Rosetta instead of Rosalia in the indictment.

In most major criminal cases in nearly all of the states of the union the convicted person has three and sometimes even more chances of appeal and one or two chances of executive clemency. Each time he has a chance to find a loop-hole and to make his escape while society is denied an equal chance to protect itself.

Our laws have been so emasculated by molly-coddle reformers that it is almost impossible to convict a criminal and keep him convicted or to convict one or a group of men who maladminister government departments. A case in point. Between the years 1915 and 1919, four real estate experts were paid $2,736,868 out of the city treasury. It was common knowledge that the payments were grossly excessive and that a good deal of this money ultimately found its way into the political fund of the administration and yet the Supreme Court reversed the verdict of the Circuit Court which had found the defendants guilty because it claimed that the prosecution had not proven that any member of the administrative body had personally received any of the money. To the laymen the language of the Supreme Court seems to say that if the administrative officer chooses to look in the other direction when the money is being stolen he cannot be held responsible. I do not presume to criticize the courts in these decisions, the fault may be in the laws, but no one will claim that all this spells governmental efficiency, and that is the point under discussion here. In this connection I wish to quote a jurist who was known for his outstanding fearlessness and integrity and his profound knowledge of the law. He characterized the Municipal and Circuit Courts as the Courts of Original Error, the Appellate Courts as the Courts of Intermediate Speculation and the Supreme Court as the Court of Ultimate Conjecture.

While most of these illustrations have naturally been taken from Chicago and Illinois, similar instances in many other places prove that conditions are just as bad. We need but refer to the recent dismissal of five judges for gross inefficiency and corruption in New York City and to an address of Samuel Seabury to the justices of the Appellate division of the Supreme Court of New York in which he said, "It is for you to say whether the magistrates' courts shall be turned into bargain-counters where justice is bought and sold, when political leaders are brokers dealing in influence." In smaller governmental units the corruption and inefficiency is, of course, on a smaller scale but in many instances it is there just the same. One writer in a popular magazine sizes up the whole situation in the following words: "From Teapot Dome to our latest Municipal Court scandals we have seen enough of political and public malfeasance to believe almost anything of our law-makers, courts and public guardians."

We have devoted this much space to the discussion of governmental inefficiency because it is fundamental. If we have demonstrated that most governments are inefficient or corrupt and that some are both and that there is no likelihood of marked improvement in the immediate future, then we have proven that it would be unwise and unsafe to entrust so vital a function as the almost universal control of medical practice to governmental supervision and control. If one were to

record all the evidence of inefficiency and corruption which occur in all the governmental units of this country in one year alone it would require volumes instead of a few short articles.

The purpose of these articles, however, is not so much to give detailed information as to arouse the allied professions of medicine and dentistry and through them the general public to the impending danger.

(The next two articles will show how the quality of medical services deteriorate under Compulsory Health Insurance.)

WE OUGHT TO HAVE DOCTOR'S DAY—LAY EDITOR HAS KIND WORDS FOR THE PHYSICIAN

In these days when misrepresentation and abuse of physicians seems to be the favored indoor pastime of many ill informed publicity seeking lay journals and magazine writers it is refreshing as well as encouraging to read an editorial "A Plea for Doctors" by Peter B. Kyne that appeared in the *Chicago Herald and Examiner* under date of April 22, 1932. We quote:

A Plea for Doctors

Some of my doctor friends tell me that during these dark days they aren't as busy as they used to be. People cannot afford to be sick; withering of the bank roll has denied them the joy of ill-health, and those who do become ill get up out of their sick beds promptly and start hustling a living. Surgeons are just as busy as they ever were, but neither internal medicine men nor surgeons are making the money they used to make and aren't collecting very much of what they earn.

It is a rare thing for a doctor to sue one for his bill, for to a very great extent physicians are a soft-hearted, sympathetic lot, and if a patient cannot pay his bill they never bother him very much about it, or else make their fee so reasonable that none but those lost to a sense of shame will evade payment of it.

Once I heard a very rich man scream in agony because a noted surgeon had charged him a thousand dollars for removing his appendix. Now this man knew he could afford the best, and he wanted the best and got it. He would have been afraid to entrust his fat person to a doctor who would have done, perhaps, a job equally good for a hundred dollars.

Yes, he wanted the best, but after he had had the best he graded it with the mediocre—as far as remuneration was concerned.

He submitted to that operation feeling perfectly secure and serene because he knew he was in unusually skillful hands, and he forgot such skill and such a reputation for skill had not been acquired save by long years of apprenticeship, during which thousands of appendixes had been removed without charge.

He forgot that his life was worth more to the community than that of a charity patient, and he refused to pay the bill without indulging in a disgusting tirade and pleading poverty and oppression.

People forget that the doctor, like the concert singer, may not adhere to one price; that the rich patient must bear the responsibilities of the rich and the strong to society's general health by taking up the slack of the doctor's support where the poor and weak fail.

The true physician has in him a Christlike quality. He has a vast sympathy for sick people, a vast pity for the poor and the helpless. So he is imposed upon, for most human beings are alert to note quick and unstinted sympathy, and are not at all averse to trading upon it.

And the doctor, who knows human beings so much better than they know themselves, is, somehow, neither shocked, distressed nor made bitter by evidence of ingratitude.

Few persons realize how hard earned is the doctor's competence, which, nine times out of ten, is surprisingly modest. He is the last relic of civilized slavery.

He goes to the theater, telling himself he shouldn't, because Old Lady Gazookis is in the hospital and she's just the sort to whom a minor gas pain will mean a capital operation.

So the doctor leaves his seat number and name at the box office, and in the middle of the second act an usher comes and whispers that the doctor is wanted on the telephone. And it's Old Lady Gazzokis'.

If a doctor is the proprietor of a half decent practice he seldom eats a meal in peace, and in his middle years, what with hastily eaten meals and broken rest and overwork, he surrenders to angina pectoris, the scourge of the medical pro-

fession, and a youthful hopeful steps into his practice and goes the same route in the fullness of time.

Doctors and army and navy officers have in them something of the same holy zeal of a monk. Their professions call for a renunciation of worldly wealth and place; they work for the joy of the job and get little thanks and much criticism for it, and are never really appreciated until a grave emergency arises.

I am much in favor of doctors. The only one I never liked was an army medico who got a private by the name of Kyne mixed up with another private by the name of Klein, and slipped Kyne three large beakers of epsom salts intended for Klein. At that the poor doctor was terribly sorry, and I suppose Kyne would have forgiven him if he hadn't been suffering from tropical dysentery at the time.

Some sentimentalist (I suspect he was a florist) invented Mother's Day. I believe we ought to have Doctor's Day, and on that day send in our checks for all we owe our doctor in cash and try to express something of what we owe him for the things that money can never buy.

ANNUAL REPORT OF THE WOMAN'S AUXILIARY TO THE ILLINOIS STATE MEDICAL SOCIETY

The Committees of the Woman's Auxiliary to the Illinois State Medical Society have been very active and efficient under the leadership of Mrs. T. O. Freeman, President. Some of the outstanding activities of these Committees are worthy of mention.

Hygeia. Mrs. G. E. Johnson (Chicago), Chairman, reports that Cook County has been most active in the State. Mrs. A. I. Edison of Cook County has worked tirelessly in placing *Hygeia* in Public Libraries throughout Chicago and suburbs. To cover cost of these donated subscriptions the Auxiliary gave a benefit card party.

Gradually but surely *Hygeia* is gaining a strong foothold in Illinois and the auxiliaries are working hard on placing this worthy publication in all Y. M. C. A.'s, Y. W. C. A.'s and Women's Clubs. Through the efforts of the auxiliary it is now on sale on a great many news stands and their efforts are concentrated on having it placed in all places where magazines are handled and on display.

Organization. Mrs. W. D. Chapman (Silvis), Chairman, has been working throughout the entire year with her Councilors in consummating plans for organizing Auxiliaries in Winnebago, Livingston, Logan, Schuyler, Cass and Champaign Counties. It is expected several of these counties will be shortly added to our list of organized County Auxiliaries. St. Clair County is our latest addition.

Legislative. Mrs. Solomon Jones (Danville), Chairman, wrote a letter early this season to all County Presidents outlining some suggestions from Dr. J. R. Neal with reference to preparing constructive legislative programs. One of the Auxiliary's objectives is to combat the many activities of a more or less paternalistic nature which are presented for endorsement and support to women's clubs, parent-teacher associations and church societies, and exert every ethical influence to keep off the books all bad laws relating to public health and healing art.

In order to accomplish this end physicians' wives must take an active part in women's clubs and work on club committees; study the economic dangers to organized medicine and make an effort to understand the problems which confront our doctor-husbands. The underlying thought in such work is not the income of the physician but the opposition of many influences that have to do with the public health which comes up for discussion in nearly every organized group.

Notices have been sent out to all County Auxiliary Presidents asking them to have their members protest against obnoxious bills.

Program. Mrs. N. C. Iknayan (Charleston), Chairman, has sent out during the year various outlines of programs which have proven helpful to the County Auxiliaries in planning constructive and informative programs.

Revisions. Mrs. Harold Miller (Chicago), Chairman, and her Committee have prepared revisions to the Constitution and By-Laws to be presented at the Annual Meeting in Springfield.

Press and Publicity. Through contact with County Auxiliaries and Chairmen of Committees, Mrs. F. P. Hammond, Chairman, has collected a fine lot of press notices, programs, etc., which have been assembled in book form for a

permanent record, and this book will go on exhibit at the National Convention in New Orleans.

Social. Mrs. H. B. Henkel, Chairman, and her Committee have made extensive plans for the entertainment of the Auxiliary members at the State Meeting in Springfield, May 17-19th. Evidence of her Committee's work is found in the published program for the State Meeting.

Mrs. F. P. Hammond,
Press and Publicity Chairman.

EDUCATIONAL COMMITTEE REPORT FOR APRIL, 1932

The Committee assisted the State Department of Public Health in observing Health Promotion Week, April 24-May 1, as proclaimed by Governor Emmerson. Speakers were scheduled for high schools and clubs, suitable health articles were released to newspapers throughout the state, and health programs outlined. All organizations in Whiteside county put on special health programs with speakers from the Educational Committee, and the men's service organizations and two business and professional women's clubs of Evanston had physicians present suitable health talks.

SPEAKERS' BUREAU

80 physicians addressed lay meetings during the month.

Comments received on these talks are interesting:

"Well delivered, not oratorical, common sense talk."

"An excellent talk, interesting and informative."

"Excellent talk."

"Dr. was very fine. His talk was just what we wanted and full of information and facts."

"Good, interesting, profitable talk by a capable, very human physician."

"We enjoyed the talk immensely and felt that her presentation of the subject was most satisfactory."

"Splendid speaker. Easy to listen to and he made an unusually favorable impression. Presented his subject clearly, in concise and understandable language."

RADIO

43 radio talks were given from stations WGN and WJJD on subjects appropriate for the month.

SCIENTIFIC SERVICE

23 speakers presented scientific papers before medical organizations in the following counties and cities:

Madison	Kane
Perry	McLean
Bureau	Rock Island
Union	Kankakee
Sangamon	Knox
Will-Grundy	Livingston
Elgin-Sherman Hospital	Paris Hospital Staff

Perry Memorial Hospital Staff, Princeton

Notices were sent out by the Committee for secretaries of Franklin, La Salle and Livingston Counties. These went to all physicians in adjoining counties as well as members of the host society.

PRESS SERVICE

307 regular press service.
1,156 articles concerning topics designated for Health Week.
611 notices of the Annual Meeting of the Illinois State Medical Society.
27 Newspapers, Monthly Service.
51 newspapers, re meeting Bureau County Medical Society.
31 newspapers, re meeting Franklin County Medical Society.
55 notices to newspapers about Henry County Medical meeting.
102 newspapers, re meeting La Salle County Medical Society.
60 releases about Livingston County Medical meeting.
44 newspapers, re meeting Madison County Medical Society.
55 newspapers, re meeting Kankakee County and City Medical Societies meeting.
26 community newspaper—re meetings Branch Societies, Chicago Medical Society.
3 Chicago Association of Commerce.

2,528 TOTAL ARTICLES SENT DURING THE MONTH.

5 Articles were written to be used over signature of county medical societies:

Ringworm of the Feet
The Children's Health Audit
Colds in Spring and Summer
Typhoid Fever Still a Menace
Clean-Up Time

The Educational Committee has been asked to furnish a weekly health column to two Greek newspapers of Chicago.

MISCELLANEOUS

The American Medical Association furnished the Educational Committee an exhibit to be used at the Annual Meeting of the Illinois Congress of Parents and Teachers, Rockford.

An exhibit will also be placed at the Sherman Hotel, headquarters for the annual meeting of the Illinois Federation of Women's Clubs.

Films and folders were sent to schools and physicians.

Material was furnished the Chicago Herald and Examiner for the Monthly Child Health Magazine Section now a feature of the Sunday issues.

The President-Elect was invited to give an address on "The Medical Society's Responsibility in the Field of Health Education" at the Annual meeting of the Illinois Tuberculosis Association.

Respectfully submitted,
Jean McArthur, Secretary.

WOMEN GOLFERS ATTENTION!

All women golfers are urged to attend the Illinois State Medical Meeting in Springfield, Illinois, Tuesday, May 17.

A 1 o'clock luncheon will be served at the Illini Country Club, giving an opportunity to get acquainted.

Golf play will begin at 2:00 p. m. on the delightful Club Course. Prizes will be awarded at the President's Dinner.

You should avail yourself of this opportunity to represent your city and enjoy a good game of golf.

There will be a nominal charge for green fee and luncheon.

Golfers wishing to signify their intention of attending the meeting and participating in the competition for prizes should notify Mrs. O. L. Zelle, 1413 Park Ave., Springfield, Illinois.

REDUCED RAILROAD RATES FOR ANNUAL MEETING

The Western and Central Passenger Associations have granted a reduced rate of a Fare and One-Third to members, and dependents of the family attending the Annual Meeting to be held in Springfield on May 17 to 19, 1932, provided 100 certificates are presented at the meeting for validation.

The following directions are submitted:

1. Tickets at the normal one way rate may be bought between May 13 and May 19, inclusive.

2. When purchasing your going ticket be sure to ask the ticket agent for a convention certificate, or a receipt for the fare paid, if the agent does not have convention certificates available. Be sure that the certificate or receipt is properly stamped with the same date as appears on your ticket.

3. When registering at the meeting in Springfield, be sure that your certificate, or receipt, is deposited for validation.

4. When 100 certificates or receipts for purchase of tickets are deposited, they will be validated by the Secretary of the State Society as endorsing officer, and by a representative of the Passenger Associations.

5. When the required number of certificates are validated, the owner will be entitled to a reduced return rate of one-third of the normal one rate, back to the place from which the going ticket was purchased.

This special fare has been granted at the request of the Illinois State Medical Society, and all requirements must be met, as mentioned above, to get the reduced return rate.

Do not forget to ask for the Convention Certificate when buying your ticket to Springfield, at the normal rate, and do not forget to deposit it promptly, on arriving in Springfield.

FRATERNITY MEN, ATTENTION

GENERAL GATHERING OF FRATERNITY MEN AND THEIR FRIENDS ILLINOIS STATE MEDICAL MEETING

Tuesday, May 17, at 6:00 P. M., University Club Springfield

A ROUSING GATHERING TYPICAL OF THE OLD SCHOOL FRATERNITY SPIRIT IS DESIRED

ALUMNI, ATTENTION!

GENERAL ALUMNI MEETING TO BE HELD MAY 18 AT NOON, ROOF GARDEN, ELKS CLUB

BANQUET FOR MEDICAL LEGION MEMBERS

A banquet for physicians who are members of the American Legion has been arranged to take place in Springfield at 12 o'clock noon on Tuesday, May 17th, the first day of the annual meeting of the Illinois State Medical Society. Immediately following the banquet the meeting will be opened to the friends of the American Legion who are invited to hear three splendid addresses by

1. Edward Hayes, Decatur, Ill., Chairman of the National Rehabilitation Committee of the American Legion.

2. Col. Hugh Scott, M. D., Walter Hines Hospital, Chicago.

3. Dr. Harrison H. Shoulders, Nashville, Tenn.

This is the first time that a meeting of the character has ever been planned in connection with State Medical Society activities. Dr. R. D. Dugan, Springfield, is chairman of the American Legion Committee and has arranged the program. He will announce further details in the next issue of the JOURNAL.

GOLF TOURNAMENT AT ANNUAL MEETING

"There will be a golf tournament at the annual meeting for interested doctors on Tuesday morning, May 17, 1932. We would like to have every county represented in the tournament. County Secretaries or individual golfers may write to Dr. F. P. Cowdin, Chairman, Golf Tournament Committee, 320½ South Fifth St., Springfield."

MAKE HOTEL RESERVATIONS EARLY—ANNUAL MEETING

Springfield is pleasurably awaiting the meeting of the Illinois Medical Society on May 17, 18, 19, 1932. Springfield is a city of national historical interest, which every Illinoisan and American should give at least one appreciative visit, and May is a delightful month in which to do this.

Hotel reservations should be made as soon as possible to avoid a last minute rush. Rooms can be had at varying prices, from the de luxe accommodations of the larger hotels, to those of the smaller, quieter, and less expensive hostelries. There is ample space for all and every purse can be suited.

The Committee on Hotel Accommodations will gladly co-operate in any way possible to make your Medical Week a success and pleasure.

It is keenly hoped that members will bring their wives and families along. The women of the Auxiliary of the Medical Society are planning a hearty welcome for the ladies and will exert themselves in every way to make this visit one to be remembered.

The Sangamon County Medical Society and their Ladies' Auxiliary also join in sending an urgent invitation to you, Dr. and Mrs. Physician, to come to Springfield for this Medical Meeting, on May 17, 18, 19, 1932, to visit us and to visit our town, the home of Abraham Lincoln, and the capital of your State.

Send your reservations direct to the hotels.

HOTEL RATES

Abraham Lincoln Hotel	300 rooms	$3.00 to $7.00
St. Nicholas Hotel	350 rooms	2.00 to 6.00
New Leland Hotel	150 rooms	1.75 to 7.00
Illinois Hotel	60 rooms	1.25 to 2.50

There are other hotels, which are smaller but comfortable.

TUESDAY LUNCHEON

Dr. E. H. Cary, President, American Medical Association, will make the principal address at a luncheon to be held at the Leland Hotel, Springfield, at 12:00 noon, Tuesday, May 17, 1932.

Everyone is cordially invited to attend this luncheon, and hear the message of Dr. Cary. Announcements will be made at the Registration Headquarters early Tuesday morning, May 17.

MEDICAL ADVERTISING SOLICITOR WANTED

The Illinois Medical Journal desires in Chicago and in each of the principal cities in the United States solicitors, preferably persons with medical advertising experience. No guaranteed salary. Compensation solely on commission basis.

Illinois Medical Journal,
185 N. Wabash Avenue, Chicago, Illinois.

THE A. M. A. COUNCIL ON MEDICAL EDUCATION AND HOSPITALS SAYS THAT:

In 1930 licenses to practice medicine were issued by state licensing boards to the number of 7,548.

There are 6,719 registered hospitals, and 540 not on the register.

There are 955,869 hospital beds.

The total patient days in the hospitals in continental United States for 1930 was 278,634,430, an increase of 13,364,840 in two years.

The annual gain in capacity of hospitals has been at the rate of more than 20,000 beds a year for more than twenty-one years.

The number of physicians—including staff members, residents, interns and superintendents—connected with hospitals was 98,491 in 1930.

The total average number of beds unoccupied constantly in all hospitals in 1930 was 192,487.

Outpatient departments of hospitals increased from 678 in 1921 to 1,027 in 1929.

In 1929, 6,644,983 patients made 19,056,394 visits to outpatient departments, just twice as many as in 1921.

There are now 664 hospitals approved for interns. These hospitals have 201,974 beds and are served by 5,584 interns. There are 219 hospitals not yet on the approved list in which there are 510 interns.

The number of hospitals approved for residencies has grown from 270 in 1927, when the list was begun, to 349 in 1930 and 2,069 residencies are now provided in these hospitals.

There are 317 hospitals for nervous and mental patients under government control—federal, state, county and city—with a total rated capacity of 419,262 and with 400,395 patients. Such hospitals to the number of 244 are operated under other auspices, with a rated capacity of 18,317 and with an occupancy of 14,647. These figures are for continental United States.

The above statistical data can well be carefully studied in the consideration of several questions of great importance to the profession and to the public alike. Some of them have important bearing on the conditions of medical practice in the United States and on the facilities available to the public for securing medical and hospital service.

ILLINOIS STATE MEDICAL SOCIETY

EIGHTY-SECOND ANNUAL MEETING SPRINGFIELD, ILLINOIS

May 17, 18, 19, 1932

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T. O. Freeman	1932	G. C. Otrich	1932
W. A. Pusey	1932	N. S. Davis III	1932
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*Deceased.

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L. E. Orr.....Springfield
Paul Reinertsen .....Auburn
A. L. Suttle.....Williamsville

REGISTRATION COMMITTEE

P. L. Taylor, *Chairman*.....Springfield
E. K. Lockwood, *Vice-Chairman*....Springfield
Frank N. Evans.....Springfield
J. C. Jackman.....Springfield
B. J. Kuly.....Springfield
G. J. Mautz.....Springfield
H. L. Metcalf.....Springfield
Thos. W. Priest.....Springfield
N. Rosen .....Springfield
G. W. Staben.....Springfield
A. R. Trapp.....Springfield
W. W. Van Wormer.....Springfield

TRANSPORTATION COMMITTEE

C. W. Milligan, *Chairman*.....Springfield
R. K. Campbell, *Vice-Chairman*.....Springfield
A. G. Hofferkamp.....Springfield
J. A. Lindquist.....Springfield
Chas. McLaughlin.....Chatham

EXHIBITS COMMITTEE

A. C. Baxter, *Chairman*.....Springfield
Hermon H. Cole, *Vice-Chairman*....Springfield
Chas. F. Harmon.....Springfield
J. H. Hill.....Mechanicsburg
V. D. Stanford.....Illiopolis
J. C. Walters.....Springfield

CONTACT COMMITTEE

Robert Flentje, *Chairman*.....Springfield
O. E. Ehrhardt, *Vice-Chairman*.....Springfield
O. H. Deichmann.....Springfield
R. E. Holden.....Springfield
W. P. Levis.....Springfield
J. C. McMillan.....New Berlin
Robert E. Smith.....Springfield

LADIES' ENTERTAINMENT

C. P. Colby, *Chairman*.....Springfield
H. T. Morrison, *Vice-Chairman*.....Springfield

ALUMNI DINNER COMMITTEE

H. C. Blankmeyer, *Chairman*.....Springfield
George G. Harvey, *Vice-Chairman*..Springfield
Chas. L. Patton.....Springfield
G. B. Stericker.....Springfield

ADVISORY COMMITTEE

C. A. Frazee.....Springfield
Andy Hall.....Springfield
John R. Neal.....Springfield
S. E. Munson.....Springfield

FRATERNITY COMMITTEE

C. B. Stuart, *Chairman*.....Springfield
D. I. Martin, *Vice-Chairman*.....Springfield

GOLF COMMITTEE

Fred Cowdin, *Chairman*.....Springfield
Robert I. Bullard, *Vice-Chairman*...Springfield

LADIES' GOLF COMMITTEE

R. F. Herndon.....Springfield
E. S. Spindel.....Springfield

AMERICAN LEGION COMMITTEE

R. D. Dugan, *Chairman*.....Springfield
H. H. Tuttle, *Vice-Chairman*.....Springfield
A. G. Aschauer.....Springfield
E. L. Bernard.....Springfield
C. W. Compton.....Springfield
Gerald C. Hunt.....Springfield
H. H. Southwick.....Springfield

STAG ENTERTAINMENT COMMITTEE

H. B. Henkel, *Chairman*.....Springfield
J. A. deFrietas, *Vice-Chairman*.....Springfield
F. B. Jones.....Springfield
W. C. Martini.....Springfield
C. V. McMeen.....Springfield
Fred S. O'Hara.....Springfield

LADIES' ENTERTAINMENT COMMITTEE

Mrs. F. P. Cowdin, *Genl. Chairman*..Springfield
Mrs. C. A. Frazee.....Springfield
Mrs. E. E. Hagler.....Springfield
Mrs. Herbert Henkel.....Springfield
Mrs. John R. Neal.....Springfield
Mrs. S. E. Munson.....Springfield
Mrs. E. K. Lockwood.....Springfield
Mrs. Homer MacNamara.....Springfield
Mrs. Fred O'Hara.....Springfield
Mrs. I. W. Metz.....Springfield
Mrs. A. G. Aschauer.....Springfield
Mrs. Andy Hall.....Springfield

WOMAN'S AUXILIARY TO THE ILLINOIS STATE MEDICAL SOCIETY

Mrs. T. O. Freeman, President.....Mattoon
Mrs. E. W. Mueller, President-Elect...Chicago
Mrs. Wm. D. Chapman, First Vice-President
.....Silvis

Mrs. Solomon Jones, Second Vice-President.. .....Danville
Mrs. A. H. Baugher, Third Vice-President... .....Chicago
Mrs. S. E. Allen, Corresponding Secretary... .....Arcola
Mrs. M. O. Wilkins, Recording Secretary.... .....Chicago
Mrs. A. H. Brumback, Treasurer.....Chicago

COUNCILORS

District 1. Mrs. D. J. Evans.....Aurora
District 2. Mrs. A. D. Middleton....Pontiac
District 3. Mrs. E. R. Steen.....Chicago
District 3. Mrs. S. M. Goldberger...Chicago
District 3. Mrs. H. M. Peterson.....Chicago
District 4. Mrs. C. H. Anderson..East Moline
District 5. Mrs. H. B. Henkel....Springfield
District 6.
District 7. Mrs. C. M. Jack.....Decatur
District 8. Mrs. H. I. Conn.....Newman
District 9.
District 10. Mrs. C. O. Boynton.....Sparta

CHAIRMAN OF STANDING COMMITTEES

Organization.....Mrs. W. D. Chapman, Silvis
Press Publicity..Mrs. F. P. Hammond, Chicago
Legislation.....Mrs. Solomon Jones, Chicago
Printing.....Mrs. R. K. Packard, Chicago
Social.....Mrs. H. B. Henkel, Springfield
Program.....Mrs. N. C. Iknayan, Charleston
Revisions.....Mrs. Harold Miller, Chicago
Public Relations....Mrs. G. H. Mundt, Chicago
Registration....Mrs. Lucius Cole, River Forest
Credentials.....Mrs. A. H. Baugher, Chicago
Hygeia.....Mrs. G. E. Johnson, Chicago

Headquarters—Abraham Lincoln Hotel

Registration—Knights of Columbus Building

WOMAN'S AUXILIARY AND ALL VISITING LADIES

Registration....Knights of Columbus Building
Information.....Abraham Lincoln Hotel

Tuesday, May 17, 1932

10:00 A. M.—Auxiliary Board Meeting, Abraham Lincoln Hotel.

10:30 A. M.—Auxiliary County Presidents meet with Mrs. Mueller, Pres.-Elect.

1:00 P. M.—All visiting ladies. Buffet Luncheon. Illini Country Club followed by bridge, golf, or a garden tour. Luncheon $1.00 per plate.

6:30 P. M.—All visiting ladies. Dinner in honor of Auxiliary Board Members, County Presidents. Elks Club Bldg. $1.00 per plate.

7:30 P. M.—Open meeting of Medical Society to which all ladies are especially invited.

Wednesday May 18, 1932

9:30 A. M.—Auxiliary. Business Meeting, Abraham Lincoln Hotel. Open to all members and guests.

1:00 P. M.—Luncheon for all visiting ladies, Sangamo Club. Short address by Auxiliary President, Mrs. T. O. Freeman. Address by Dr. E. P. Sloan. Introduction of new Auxiliary President, Mrs. Mueller. $1.00 per plate.

4:00 P. M.—Reception at Executive Mansion or at historic Edwards Place. All ladies invited.

6:30 P. M.—The President's Dinner, Abraham Lincoln Hotel. Award of golf and bridge prizes. Dancing. Cards.

Thursday, May 19, 1932

9:00 A. M.—New Board Meeting with President. Mrs. E. W. Mueller, Abraham Lincoln Hotel.

10:30 A. M.—Drive to Lincoln Shrines.

RESUME OF SOCIAL FUNCTIONS

Tuesday, May 17

Buffet Luncheon, Illini Country Club, 1 P. M., Tuesday May 17. Price $1.00 per plate. Golf, bridge or garden tour.

Dinner at Elks' Club in honor of Auxiliary Board members. 6:30. All ladies invited. Entertainment. $1.00 per plate.

Open Meeting with Sangamon Co. Medical Society 7:30 P. M. Tuesday night, Elks' Club. Special Program.

Wednesday, May 18

Luncheon for all ladies, Sangamo Club, 1 P. M. $1.00 per plate. Short address by Mrs. T. O. Freeman, President of the Auxiliary. Address by Dr. E. P. Sloan. Introduction of new Auxiliary President, Mrs. Mueller.

Reception either at Executive Mansion or historic Edwards Place. 4:00 P. M.

Presidents Dinner, 6:30 P. M., Abraham Lincoln Hotel. Entertainment, Dancing, Cards. Award of golf and bridge prizes.

Thursday, May 19

Drive to the Lincoln Shrines, 10:30 A. M. Starting from lobby of Abraham Lincoln Hotel.

Secretary's Conference

W. D. Murfin, *President*.....Decatur
T. D. Doan, *Vice-President*.....Palmyra
H. A. Felts, *Secretary*.....Marion

Tuesday Morning, May 17, 1932, 10-12

1. "The Laity In Medicine." Thomas P. Foley, Councilor, 3rd District, Chicago.

The purpose of this paper will be to show the activities of various lay groups in the practice of medicine, in various ways.

2. "The Necessity for Correlation of County Society Programs." Ben Fox, Secretary, Franklin County Medical Society, West Frankfort.

In order to get the most from our Medical Society Programs and activities, the Counties lying contiguous to a common center should correlate their programs so that there will be no conflict in dates and that the members of the various surrounding Societies may attend the same meeting.

3. "The Practice of Medicine vesus The Profession of Medicine." Lee O. Frech, Decatur.

The contents of the paper deal principally with the problems of Organized Medicine stressing particularly the part played by the active practice of Medicine in detracting the attention and interest of Medical Men from the problems of the Medical Profession.

4. "Crippled Children's Clinics Conducted by the County Medical Society." Philip K. Kreuscher, Chicago.

The management of the Crippled Children's Clinics has heretofore been largely under the management of Lay Organizations. These Clinics should be entirely under the management of the County Societies, or in more sparsely settled parts of the State, several Counties should join together and conduct such a Clinic.

5. "The Care of the Indigent Sick—and Well." Cleaves Bennett, Chairman of the Council, Illinois State Medical Society, Champaign.

The poor we always have, have had, and will always have in the future. The Medical profession will always have to take care of them, because no other profession can do it. The Medical Profession ought to be and will have to be paid by someone for services rendered to the indigents.

Meetings of the House of Delegates

Knights of Columbus Building

Tuesday, May 17, 1932

3:00—First meeting of the House of Delegates called to order by the President, R. R. Ferguson, for reports of Officers, Councilors and Committees, and to transact other business that may come before the House.

Thursday Morning, May 19, 1932

8:30—Second meeting of the House of Delegates called to order by the President for election of Officers, Councilors, Committees, Delegates to the American Medical Association; Report of Resolutions Committee and necessary action on Resolutions, and for the transaction of other business that may come before the House.

At the close of this final meeting of the House of Delegates, the President-Elect, John R. Neal, will be inducted into the office of President of the Illinois State Medical Society, by the retiring President, R. R. Ferguson.

General Sessions

Tuesday Evening, May 17, 1932

Elk's Club Auditorium

General Opening Meeting.

7:30—Meeting officially opened by the President, R. R. Ferguson.

Invocation—Reverend Edw. J. Haughton, Rector of St. John's Episcopal Church, Springfield.

Address of Welcome—Hon. John Kapp, Jr., Mayor of Springfield.

Address of Welcome—C. A. Frazee, M. D., President, Sangamon County Medical Society.

Report of Chairman, Committee on Arrangements, Don Deal.

Address—"The Sequential Development of the Physical Sciences." E. H. Cary, President, American Medical Association, Dallas, Tex. (By invitation.)

The General Opening Meeting is open to the public, and it is hoped that many lay folks will be present to hear the unusually interesting talk to be given to them by Dr. Cary.

Wednesday Afternoon, May 18, 1932

Columbus Hall, Knights of Columbus Building

1:00—President's Address—R. R. Ferguson, President, Illinois State Medical Society, Chicago.

1:30—Oration in Medicine—Fred M. Smith, Professor of Medicine, University of Iowa Medical School, Iowa City, Iowa. "The Modern Aspect of Rheumatic Heart Disease."

2:30—Oration in Surgery—Jabez N. Jackson, Kansas City, Missouri. "Physiologic Considerations in Surgery of the Abdomen."

PRESIDENT'S DINNER

Abraham Lincoln Hotel

Wednesday Evening, May 18, 1932, 6:30

This evening will be given entirely to a tribute to our President, R. R. Ferguson. Suitable entertainment will be a part of the proceedings, to be announced later.

Following the dinner, the President's Certificate will be presented to President Ferguson by Cleaves Bennett, Chairman of the Council of the Illinois State Medical Society.

It is hoped that every member of the Society attending this Annual Meeting will arrange to attend the President's Dinner.

VETERANS' LUNCHEON

The Veterans' Service Committee has arranged a luncheon to be given at the Abraham Lincoln Hotel on Tuesday, May 17, 1932, at 12:00 noon. The Committee extends an invitation to all physicians who are ex-service men to attend this interesting function, which will be attended by a large group of Legionnaires.

Toastmaster—Thomas P. Foley.

PROGRAM

1. "What the Hospital Does for the Veteran." Col. Hugh Scott, Manager, Edward Hines, Jr., Hospital, Hines, Illinois.

2. "What the American Legion Does for the Veteran." Edward Hayes, Past Commander, American Legion, Department of Illinois, National Executive Committeeman, and Chairman of the Rehabilitation Committee. Decatur, Illinois.

3. "What Organized Medicine Can Do for the Veteran." H. H. Shoulders, Secretary, Tennessee State Medical Association, Nashville, Tennessee.

It is hoped that every ex-service member of the Illinois State Medical Society will attend this luncheon, as well as all other members of the Society who are interested in the welfare of veterans, and who wish to see the best service given to those who actually deserve it.

COMPLIMENTARY SMOKER

Immediately following the General Opening Meeting on Tuesday Evening, the Sangamon County Medical Society will entertain their guests, at a "Smoker." This function being for "men only" the Ladies will have suitable entertainment at the same hour. The exact nature of the program for the Smoker has not been divulged, but we are informed that it will be one of relaxation and enjoyment, and well worth while.

SECTION OF MEDICINE

Warren Pearce.....*Chairman*
Walter H. Nadler.....*Secretary*

Tuesday, Afternoon, May 17, 1932

Community Hall, Second Floor

Knights of Columbus Building

Joint Session with Sections on Surgery, Public Health and Hygiene, and Radiology. Program by Guest Speakers.

1:00—"Public Health Education." H. E. Kleinschmidt, New York City.

1:40—"The Toxemias of Pregnancy and Their End Results from the Viewpoint of Internal Medicine." W. W. Herrick, New York City.

2:20—"The Diagnosis and Treatment of Menstrual Irregularities of Function Origin." Floyd E. Keene, Philadelphia, Pa.

3:00—"The Diagnosis and X-Ray Treatment of Malignant Diseases of Bone." Sherwood Moore, St. Louis, Missouri.

3:40—"Relationship of the Para-Thyroid Glands to Calcium Metabolism." David P. Barr, St. Louis, Missouri.

4:20—"The Disabled Gall Bladder." Alfred Brown, Omaha, Nebraska.

Wednesday Morning, May 18, 1932

Community Hall

9:00—"Influenza and Pneumonia—A Report of Epidemics at the Illinois School for the Deaf and Blind." George L. Drennan, Jacksonville.

The paper deals with four epidemics of influenza, two in 1931 and two in 1932, at the Illinois Schools for the Deaf and the Blind. The incidence and mortality of pneumonia is given. Preliminary remarks include certain facts obtained from studies of the deaf and blind.

Discussion opened by George E. Baxter, Chicago.

9:30—"Periarteritis Nodosa." George Parker and Milton G. Bohrod, Peoria.

Periarteritis nodosa is a rare infection of unknown etiology, characterized by protean manifestations which depend upon the localization of the lesions. The principal types are renal, cardiac, gastrointestinal, neuromuscular, cerebral and dermatologic. Pathologically, acute nodular lesions about the arteries and older lesions with aneurysm or infarctions are present. A case is

reported, with necropsy findings, starting with hematuria, running the course of a sub-acute nephritis, and presenting neuritic and dermatologic manifestations.

Discussion opened by James G. Carr, Chicago.

10:00—"Factors of Importance in the Treatment of Exophthalmic Goiter." Willard O. Thompson, Chicago.

Iodine has not abolished deaths from post-operative crises, although it has diminished their frequency. Factors that were important in reducing the mortality before the days of iodine are still important. In particular, attention must still be paid to the selection of the time and type of operation. In this connection, two things will be discussed—refractoriness to iodine and its management, and the intensity of the nervous manifestations of the disease as a measure of the operative risk.

Discussion opened by S. E. Munson, Springfield.

10:30—"Parathyroidism and Parathyroidectomy." A. A. Mertz, Decatur.

The connection of parathyroidism with osteomalacic conditions frequently classified as chronic arthritis, has a most interesting history. Several cases of parathyroidism will be described including history, blood chemistry, rentgenologic study and findings at operation. The beneficial results of parathyroidectomy are shown by clinical reports and by roentgenograms.

Discussion opened by Paul Starr, Chicago.

11:00—"Prognostication in Hypertensive Arterial Disease." Edward J. Stieglitz, Chicago.

The problems of prognostication in hypertensive disease are multiple, and individual prognosis must be based upon many factors. Chief among these are the degree of arterial change and the degree of cardiac and renal reserve. The status of the arterial disease *per se* may be quickly and simply evaluated with considerable accuracy by the amyl nitrite test. Results obtained by this procedure are described and discussed.

Discussion opened by N. S. Davis III, Chicago.

11:30—"The Treatment of Peptic Ulcer with Gastric Mucin." Samuel J. Fogelson, Chicago.

In an investigation of the protective mechanism of gastric mucin against the proteolytic action of pepsin and hydrochloric acid, experimental evidence was accumulated to justify the use of gastric mucin in the treatment of peptic ulcer patients. The results of the treatment of over 125 peptic ulcer patients with gastric mucin by the writer, as well as the results of over 100 cases treated throughout the United States by disinterested clinicians, will be reported. The results obtained in the intractable ulcer patients who have not responded to any other form of ulcer therapy will be stressed.

Discussion opened by Lowell D. Snorf, Chicago.

Wednesday Afternoon, May 18, 1932

1:00-3:00—President's Address—Orations in Medicine and Surgery.

3:00—"Some Aspects of The Mechanics of The Chest;—Their Causes and Effects." M. H. Winters, Galesburg.

Mechanical conditions of the chest are discussed in relation to the effects of partial or complete obstruction of the esophagus, tracheal-bronchial tree, throat, nose and stomach. Such observations may be due to foreign bodies, caustic liquids or disease. Involved in the mechanism are the lungs, thoracic wall, neck, mediastinum, heart, diaphragm and nerve supply.

Discussion opened by Charles D. Sneller, Peoria.

3:20—"Chairman's Address." Warren Pearce, Quincy.

3:40—"The Original Diagnosis in 2,000 Cases of Definite Pulmonary Tuberculosis." George T. Palmer, Springfield.

A study of 2,000 cases of definite pulmonary tuberculosis has been made in order to determine the changing tendencies in the diagnosis of tuberculosis, to evaluate the result of the campaign for early diagnosis during the past two decades, and to ascertain the difficulties which still prevail in reaching a diagnosis in the early and curable stage of the disease. The conditions that have caused confusion in diagnosis and that have co-existed with early tuberculosis and obscured the clinical picture are reviewed.

Discussion opened by Clarence Wheaton, Chicago.

4:00—Some "Newer Clinical Concepts of Blood." James W. Sours, Peoria.

Recent progress in Hematology has shown that in all conditions in which the blood picture is subject to stress and strain, the ages of cells composing a given blood picture are as important considerations as their total number. Particularly is this true in infections. Schilling proved that the ages of leukocytes may be determined accurately. We have found it valuable in so far as differential diagnosis and prognosis are concerned, in twenty-five hundred instances.

Discussion opened by Lyman C. Murphy, Chicago.

4:20—"When the Cause of Heart Disease Is Obscure." Emmet Keating, Chicago.

The importance of the original factor in heart disease is emphasized. In middle life when the patient gives no history of previous illness, difficulty is encountered in determining the primary cause. Careful investigations with laboratory aid will usually deter-

mine the pathology existing in the various organs; this is of prognostic value but may be of little aid so far as proper treatment is concerned if the primary cause is unknown. Suggestions for solving the problem are given.

Discussion opened by Frank Deneen, Bloomington.

4:40—"Chronic Ulcerative Colitis." M. H. Streicher, Chicago.

One hundred seventy-four cases of chronic ulcerative colitis have been treated since 1926, with suitable diet and polyvalent autogenous vaccine hypodermically. The cases were carefully selected and studied proctoscopically. The results show remarkable improvement in 75 per cent. of the cases. Chronic ulcerative colitis should be considered an infectious process; polyvalent autogenous vaccine is of considerable importance.

Discussion opened by Richard F. Herndon, Springfield.

Thursday Morning, May 19, 1932

Community Hall

Joint Session with Section on Surgery—One guest speaker from Section on Radiology.

9:00—"True Hyperthyroidism in Children." Lindon Seed, and Henry G. Poncher, Chicago.

True exophthalmic goiter is rare in children below the usual age limit of twelve. There does exist a group which clinically simulates the above condition, but upon close clinical observation appears to be manifestations of sympathetic nervous system imbalance secondary to focal and systematic infections, emotional stress, growth and changes incident to puberty. The symptoms of true exophthalmic goiter in children are exaggerated, the pulse rates are very rapid, pulse pressure changes are more marked, exophthalmus is more common, and there is greater bodily activity. The treatment is the same as in adults, except that the more conservative measures are less justifiable because of the severity of symptoms. The operative treatment, for the same reason, must be approached more carefully.

Discussion opened by E. M. Stevenson, Bloomington.

9:30—"Some Observations About the Treatment of Uterine Fibroids." John Murphy, Toledo, Ohio. (By Invitation.)

10:00—"Recent Developments in the Treatment of Chorea Minor." Walter M. Whitaker, Quincy.

The numerous forms of treatment used in the past are briefly mentioned. Twelve cases treated with phenyl-ethyl-hydantoin or Nirvanol are reported, with a discussion as to the mode of action, merits and disadvantages of this particular form of therapy.

Discussion opened by Gerald M. Cline, Bloomington.

10:30—"The Use of Convalescent Serum and Human Blood in Suspected Poliomyelitis." Orville Barbour, Peoria.

A presentation of fourteen cases of poliomyelitis and the results following the administration of either convalescent serum or human blood to thirteen of them. A discussion of the pathology, symptomatology and spinal fluid findings in poliomyelitis. Indications for specific therapy. Possible effectiveness of convalescent serum and, or blood. Routes of administration.

Discussion opened by H. J. Shaughnessy, Springfield.

11:00—"Tuberculosis of Childhood." M. Pollak, Peoria.

Pulmonary tuberculosis in childhood appears in two forms—the juvenile form (childhood tuberculosis according to the nomenclature of the National Tuberculosis Association) and the adult form. The importance in diagnosis of the tuberculin test and of the X-rays is emphasized. Statistical studies and pertinent data gained from personal experience are studied. Case studies illustrated with lantern slides are presented.

Discussion opened by Hermon H. Cole, Springfield.

11:30—"Acute Surgical Abdominal Conditions in Children." Bernard Portis, Chicago.

While children may suffer from the various acute surgical abdominal conditions which occur in adults, it is important to emphasize that each period in human development seems to be afflicted with characteristically individual pathological processes and their clinical manifestations. This report includes an analysis of 158 children operated upon by the author with the important diagnostic features and therapeutic measures. The necessity of the combined efforts of the surgeon and the pediatrician is urged in the diagnosis of abdominal lesions of childhood.

Discussion opened by H. C. Blankmeyer, Springfield.

SECTION ON SURGERY

Jas. T. Gregory.....*Chairman*
Sumner M. Miller.....*Secretary*

Tuesday Afternoon, May 17, 1932

Community Hall

Knights of Columbus Building

Joint Session with Sections on Medicine, Public Health and Hygiene, and Radiology. All guest speaker program.

1:00—"Public Health Education." H. E. Kleinschmidt, New York City.

1:40—"The Toxemias of Pregnancy and Their End Results from the Viewpoint of Internal Medicine." W. W. Herrick, New York City.

2:20—"The Diagnosis and Treatment of

Menstrual Irregularities of Functional Origin." Floyd E. Keene, Philadelphia, Pa.

3:00—"The Diagnosis and X-Ray Treatment of Malignant Diseases of Bone." Sherwood Moore, St. Louis, Missouri.

3:40—"Relationship of the Para-Thyroid Glands to Calcium Metabolism." David P. Barr, St. Louis, Missouri.

4:20—"The Disabled Gall Bladder." Alfred Brown, Omaha, Nebraska.

Wednesday Morning, May 18, 1932

Community Hall

9:00—"Parenteral Administration of Liver Extract in Post-Operative Treatment." J. K. Narat, Chicago.

A series of patients with various surgical conditions was treated during the post-operative period with intramuscular injections of liver extract. In many cases, especially those with secondary anemia, the amount of hemoglobin and erythrocytes, particularly reticulocytes, markedly increased. In the majority of cases the patients recovered their appetite and regained their strength faster than control patients. The duration of convalescence was shortened. The use of liver extracts as routine in post-operative measure is recommended.

Discussion opened by E. B. Montgomery, Quincy.

9:30—"Bile Ducts and Jaundice, With Relation to Operative Risks in Gall Bladder Disease." B. Markowitz, Bloomington.

With every infection of the gall bladder and extra-hepatic bile ducts, there is an accompanying infection of the intra-hepatic bile ducts or hepatitis. In cases without jaundice or obstructive stones, which are apparently good risks, the liver may be so badly damaged with proportionate impairment of function that the patient may not survive a simple cholecystectomy. The mechanical factor producing jaundice may not manifest itself until late in the disease in which case the absence of jaundice may effect the surgical risk conversely.

Discussion opened by Percy Hopkins, Chicago.

10:00—"Treatment of Prostatic Obstruction." Herman L. Kretschmer, Chicago.

1. The importance of an accurate diagnosis. 2. The great importance of preoperative study and preoperative treatment. 3. Consideration of the pathology of prostatic obstruction. 4. Brief discussion of surgery and a brief consideration of treatment with the rectoscope.

Discussion opened by Arthur Sprenger, Peoria.

10:30—"Local Anesthesia As an Aid in the Reduction of Fractures." Lieut. Commander M. D. Wilcutts, Great Lakes.

The author cites a series of over 200 consecutive cases of fractures and disclocations and commends the role of local anesthesia as a valuable adjunct in the treatment of all types of fractures and dislocations. He employs procaine hydrochloride in regional field blocking. Intramuscular injections, brachial plexus and intraspinal block. A method of intramuscular injections is presented that favors a rational reduction based on fracture site and the all important associated mechanics of muscular contraction. The method affords analgesia and prolonged muscular relaxation superior to that obtained under general anesthesia.

Discussion opened by Philip H. Kreuscher, Chicago.

11:00—"Electrical Shock." Hart E. Fisher, Chicago.

1. Customary agents of electrical shock.
2. Symptoms and diagnosis of electrical shocks.
3. Standardized methods of resuscitation by means of team work in the application of sustained artificial respiration.
4. Results of treatment in a large series of electrical shock cases.

Discussion opened by Don Deal, Springfield.

11:30—"The Maggot Treatment of Chronic Osteomyelitis." G. W. Staben, Springfield.

1. Brief history of maggots in therapeutics.
2. Early developments and experiments.
3. Technique of preparation for human application.
4. Preparation of the Wounds.
5. Application of maggots to the wound, including protection of soft tissues and wire cage to confine maggots.
6. Personal experience in treating nineteen cases.

Discussion opened by John R. Harger, Chicago.

Wednesday Afternoon, May 18, 1932

1:00-3:00—President's Address-Orations in Medicine and Surgery.

3:00—"Mortality and Morbidity in Surgical Cases and the Factors That Influence Them." R. K. Packard, Chicago.

Surgical mortality and morbidity has been gradually decreased in spite of the fact that new fields in surgery are constantly being developed and known examinations which furnish information, allowing us to determine the safety of surgical risks and improved methods in the treatment of debilitated patients, have increased the operative procedure now undertaken to a marked degree.

A study of mortality and morbidity statistics throughout the country and in our own practice has revealed some interesting findings, perhaps the most important

of which is a lack of a definite plan of study or classification in these cases, and failure, in a large percentage of cases, to determine the exact cause of death. There are many factors concerned in the study of any large group of cases which give considerable knowledge as to the cause of our mortality or morbidity. The basis of this study should be made on every surgical case and should include a study of that case from the beginning to the termination, to determine if every precaution has been taken that a surgical patient is entitled to with our present day knowledge of means of diagnosis, preoperative, operative and post-operative care.

Discussion opened by C. U. Collins, Peoria.

3:30—"Appendicitis Mortality in 1605 Cases." C. E. Black, Jacksonville.

The paper will attempt to answer the following questions:

1. Did the clinical history justify operation?
2. Should operation have been performed?
3. Was too much surgery attempted?
4. Was the patient given adequate support prior to operation?
5. Was the patient given adequate support following operation?
6. What was the cause of death?
7. Were there pre-operative or post-operative complications?

Discussion opened by Chas. H. Phifer, Chicago.

4:00—"The Significance of Bleeding at the Anus." Charles J. Drueck, Chicago.

Is an alarming symptom frequently of ominous portent because significant of so many conditions from the mouth to the anus. The nearer the sources of the bleeding is to the anus, the fresher the blood, although the amount of blood and the activity of peristalsis modify this factor. The general appearance of the patient is an index. Benign and malignant conditions all contribute. Post-operative bleeding may be primary, recurrent or secondary, and either may be slight or exsanguinating.

Discussion opened by William A. Hinckle, Peoria.

4:30—"Physiologic Phases of Post-Operative Abdominal Surgery." J. H. Bacon, Peoria.

Surgery is but a mechanical attempt to restore the anatomical continuity of the body in the hope that normal physiology may follow. In abnormal surgery, many of the physiological necessities are overlooked in the crisis of acute conditions, some of which are discussed in this paper.

Discussion opened by F. F. Maple, Chicago.

5:00—"The Use of Bichloracetic Acid in Surgery." Edw. H. Ochsner, Chicago.

Corns and callouses probably cause civilized man more discomfort and inconvenience and nearly as much pain as any other ailment. Various remedies are recommended for relief of these conditions. The paper deals with the method of application of bichloracetic acid for their relief and discusses in detail the necessary changes in footwear for their prevention.

Discussion opened by E. P. Coleman, Canton.

Thursday Morning, May 19, 1932

Community Hall

Joint Session with Section on Medicine—Subject: Pediatrics.

9:00—"True Hyperthyroidism in Children." Lindon Seed, and Henry G. Poncher, Chicago.

True exophthalmic goiter is rare in children below the usual age limit of twelve. There does exist a group which clinically simulates the above condition, but upon close clinical observation appears to be manifestations of sympathetic nervous system imbalance secondary to focal and systematic infections, emotional stress, growth and changes incident to puberty. The symptoms of true exophthalmic goiter in children are exaggerated, the pulse rates are very rapid, pulse pressure changes are more marked, exophthalmus is more common, and there is greater bodily activity. The treatment is the same as in adults, except that the more conservative measures are less justifiable because of the severity of symptoms. The operative treatment, for the same reason, must be approached more carefully.

Discussion opened by E. M. Stevenson, Bloomington.

9:30—"Some Observations About the Treatment of Uterine Fibroids." John Murphy, Toledo, Ohio. (By Invitation.)

10:00—"Recent Developments in the Treatment of Chorea Minor." Walter M. Whittaker, Quincy.

The numerous forms of treatment used in the past are briefly mentioned. Twelve cases treated with phenyl-ethyl-hydantoin or Nirvanol are reported, with a discussion as to the mode of action, merits and disadvantages of this particular form of therapy.

Discussion opened by Gerald M. Cline, Bloomington.

10:30—"The Use of Convalescent Serum and Human Blood in Suspected Poliomyelitis." Orville Barbour, Peoria.

A presentation of fourteen cases of poliomyelitis and the results following the administration of either convalescent serum or human blood to thirteen of them. A discussion of the pathology, symptomatology and spinal fluid findings in poliomyelitis. Indications for specific therapy. Possible effectiveness of convalescent serum and, or blood. Routes of administration.

Discussion opened by H. J. Shaughnessy, Springfield.

11:00—"Tuberculosis of Childhood." M. Pollak, Peoria.

Pulmonary tuberculosis in childhood appears in two forms—the juvenile form (childhood tuberculosis according to the nomenclature of the National Tuberculosis Association) and the adult form. The importance in diagnosis of the tuberculin test and of the X-rays is emphasized. Statistical studies and pertinent data gained from personal experience are studied. Case studies illustrated with lantern slides are presented.

Discussion opened by Hermon H. Cole, Springfield.

11:30—"Acute Surgical Abdominal Conditions in Children." Bernard Portis, Chicago.

While children may suffer from the various acute surgical abdominal conditions which occur in adults, it is important to emphasize that each period in human development seems to be afflicted with characteristically individual pathological processes and their clinical manifestations. This report includes an analysis of 158 children operated upon by the author with the important diagnostic features and therapeutic measures. The necessity of the combined efforts of the surgeon and the pediatrician is urged in the diagnosis of abdominal lesions of childhood.

Discussion opened by H. C. Blankmeyer, Springfield.

SECTION ON EYE, EAR, NOSE AND THROAT

Wright C. Williams.....*Chairman*
Frank J. Novak, Jr.....*Secretary*

Tuesday, May 17, 1932

1:00 P. M.—"Laryngo-Fissure;—A Plea for Early Diagnosis of Neoplasms." Robert Sonnenschein and Samuel Pearlman, Chicago.

Discussion opened by H. L. Ford, Champaign.

1:20 P. M.—"The Complications of Cataract Surgery in India." Louis Bothman, Chicago.

This is a report of the complications encountered during the operation and in the convalescence of the cataract cases operated on at the Seth Heranand Charitable Eye Hospital in Shikarpur, Sind, India, during January and February, 1932.

The types of operations, kind and number of complications and infections with the end results are compiled for a comparative study.

Discussion opened by O. B. Nugent, Chicago.

1:40 P. M.—"The Trigemino-Vagal Reflex;—Experimental and Clinical Considerations." Burton Haseltine, Chicago.

This paper will discuss the anatomical connection between the sensory fibers of the trigeminus and the motor nuclei of the vagus. It will describe the experiments of Dixon of London and Phillips of Miami, showing the reflexes made possible by this connection. It will show the clinical importance of these reflexes by which intranasal conditions often become causative factors in chronic coughs and broncho-spasm, and point out how the rhinologist can determine in which cases such factors are present.

Discussion opened by George B. Lake, North Chicago.

2:00 P. M.—"Primary Glaucoma Management." Michael Goldenburg, Chicago.

Resolves itself into two divisions, namely, surgical and non-surgical. Non-surgical management depends on close and intelligent cooperation of the patient, frequent examination, tabulation of the vision, intraocular pressure and perimetric fields. The most important drugs on which we still must depend for the maintenance of these phenomena within comparatively normal limits are Eserine and Pilocarpine. Surgical management may be divided into two forms of procedure. First,—those in which the operative technique is directed toward reestablishment of drainage through the classical avenues of fluid escape; e.g., the spaces of Fontana and canal of Schlemm. Second,—that technique that may be classified as decompression operations, wherein the intraocular fluids are compelled to make their escape into the subconjunctival spaces.

Discussion opened by Ralph H. Woods, La Salle.

2:20 P. M.—"Diagnosis and Treatment of Laryngeal Tuberculosis." (Lantern Slides.) Frank R. Spencer, Boulder, Colorado. (By Invitation.)

Discussion opened by John A. Cavanaugh, Chicago.

3:20 P. M.—"Problems in Ophthalmology." Leo L. Mayer, Chicago.

The paper deals with a review of current problems in ophthalmology. The major stress is laid upon four topics. Clinical and experimental methods in detachment of the retina are discussed. The prevailing theories and therapies concerning glaucoma are brought forward for consideration. The new trend of intracapsular cataract extraction is emphasized. An experimental investigation of lens constituents is commented upon. The various phases of the trachoma problem are noted. A sketchy review of current opinions concerning certain ocular conditions pertaining to the lids, cornea, conjunctiva, sclera, extraocular muscles, and uvea and retina is given. Some of the more highly technical phases of ocular and related neurological problems are commented upon. A complete bibliography of the papers discussed accompanies the article.

Discussion opened by Walter Stevenson, Quincy.

3:40 P. M.—"Malignancies of the Tongue with Special Reference to Treatment by Irradi-

ation." Joseph C. Beck and M. Reese Guttman, Chicago.

This paper discusses the fact that besides the usual factors that influence the therapy of malignant disease of the tongue, such as size, location, extent, one of the most important is the histological structure of the neoplasm and its relation to the biological properties of the tumor. Special attention is called to the fact that in the adult, more or less fully differentiated squamous cell carcinomata are slow in growth, metastasize late, and are best treated by early wide excision, most preferably by the electro-thermic method. On the other hand, highly anaplastic cellular epitheliomas of the tongue have a life history that is characterized by early wide diffuse metastasis, and are also extremely radio sensitive and are therefore best treated by irradiation with interstitial radium and telio radium therapy or the use of a radium pack at a distance.

The problem of dealing with the metastatic glands of the neck is also discussed and appropriate surgical and irradiation therapy described. Illustrative cases of the various points mentioned in the article are reported.

Discussion opened by Thomas C. Galloway, Evanston.

4:00 P. M.—"The Safest Cataract Operation With Reference to Astigmatism Following Corneal Conjunctival Suture." (Illustrated by lantern slides.) Samuel Higgins, Milwaukee, Wisconsin. (By Invitation.)

Discussion opened by Alonzo B. Middleton, Pontiac.

4:40 P. M.—"Allergic Nasal Disease." L. Benno Bernheimer, Chicago.

Allergic Nasal Disease:—The treatment of allergic diseases is often unsatisfactory both from the standpoint of the Allergist and the Rhinologist. Based on a pathological study of these nasal conditions, we wish to present a new method of treatment by radiation, which we have found uniformly satisfactory in the treatment of both Seasonal and Non-Seasonal allergic nasal disease.

Discussion opened by Harry S. Arkin, Chicago.

Wednesday, May 18, 1932

9:00 A. M.—"Agranulocytosis." Austin A. Hayden, Chicago.

Discussion opened by J. P. Simonds, Chicago.

9:20 A. M.—"Purpura Hemorrhagica—Schoenlein-Henoch's Purpura—, With Report of a Case." J. Sheldon Clark, Freeport.

Cases of purpura hemorrhagica are not infrequent. The symptoms, as a rule, are those affecting tissues of the body other than the eye. It is not thought of as a disease likely to be manifested by severe eye complications. A report of a case that resulted disastrously to vision in both eyes is therefore deemed timely.

Discussion opened by Harry S. Gradle, Chicago.

9:40 A. M.—"Radical Mastoid Operation Without Plastic Surgery." Maurice H. Cottle, Chicago.

As Kopetzky pointed out, in children with chronic otorrhea with slight reduction in hearing the radical operation will certainly diminish the hearing . . . and that temporizing measures should be employed . . . until such a time as the usual radical may be performed. The ordinary simple mastoid is not as effective in the control of the otorrhea as the modified radical. Furthermore, subsequent medicinal treatment seems to be more beneficial in keeping the ears dry for longer periods.

Discussion opened by Irving Muskat, Chicago.

10:00 A. M.—"Types of Ocular Hemorrhage." (With lantern domonstration.) Alexander E. MacDonald, Toronto, Canada.

Pathologic findings to show how hemorrhage affects vision by;—

(1) Interfering with the transparency of the media.
(2) Disturbing the rods and cones.
(3) Disrupting the conduction of the nerve fibers.
(4) Blocking the escape of the intraocular fluids—secondary glaucoma and thrombosis.
(5) Distending the unsupported dura of the optic nerve.

Discussion opened by Ephraim K. Findlay, Chicago.

11:00 A. M.—"Management of Tabetic Optic Atrophy." George Francis Suker, and Max M. Jacobson, Chicago.

The authors present a necessary brief resume of the facts establishing the pathology which is found in tabetic optic atrophy. The various methods used in the treatment of tabetic optic atrophy, such as subcutaneous, intravenous, intrathecal and intracranial medicaments, or combinations of these are discussed. The method of choice in cases reported is the intracranial route with mercury bichloride.

Discussion opened by Harold Gifford, Chicago.

SECTION OF PUBLIC HEALTH AND HYGIENE

Arlington Ailes.....*Chairman*
Arnold H. Kegel.....*Secretary*

Tuesday Afternoon, May 17, 1932

Joint Session with Sections on Medicine, Surgery and Radiology. Program by Guest Speakers.

1:00—"Public Health Education." H. E. Kleinschmidt, Director, Health Edueation, National Tuberculosis Association, New York City.

1:40—"The Toxemias of Pregnancy and Their

End Results from the Viewpoint of Internal Medicine." W. W. Herrick, New York City.

2:20—"The Diagnosis and Treatment of Menstrual Irregularities of Functional Origin." Floyd E. Keene, Philadelphia, Pa.

3:00—"The Diagnosis and X-Ray Treatment of Malignant Diseases of Bone." Sherwood Moore, St. Louis, Missouri.

3:40—"Relationship of The Para-Thyroid Glands to Calcium Metabolism." David P. Barr, St. Louis, Missouri.

4:20—"The Disabled Gall Bladder." Alfred Brown, Omaha, Nebraska.

Wednesday Morning, May 18, 1932

Symposium on Public Health Education

Gymnasium

Knights of Columbus Building

9:00—"A Plea for Systematic Health Education." J. Howard Beard, Urbana.

This paper presents the necessity for systematic health education, and enunciates general principles in this very important field of human welfare.

9:20—"The Value of Health Education as Seen by The Layman." Mrs. T. J. Lancaster, Normal.

The most effective health education will come only through the demands of a public which has become health conscious. The value of the physical examination for children and adults is stressed, training in nutrition, the practice of health habits and sanitation, and the inculcation of health ideals.

9:40—"Effectiveness of Public Health Education as Seen by the Practitioner of Medicine." David L. Lewis, Springfield.

Preventive medicine should be on the program of all sections. The physicians do not realize the tremendous amount of preventive medicine being used. Requests for such service are increasing and the requests show remarkable understanding on the part of the public. Diseases are influenced by preventive medicine and it is reflected in the mortality rates. A comparison of such rates is given, which are very favorable for recent years.

Some difficulties—Some laymen and sects resist health education; many physicians are poorly informed about public health; laymen are not informed and when informed continually procrastinate; organized opposition by irregulars and quacks.

Suggestions—Action by County Societies like Knox County, Tenn.; full time qualified health officers like in New York state; traveling clinics by State Department of Public Health to inform physicians of newer methods of public health technic like in Tennessee. Close co-operation of public health administrators and physicians like Oak Park's medical advisory committee, and Detroit's diphtheria immunization campaign.

10:00—"Health Education from the Viewpoint of the School Official." J. B. McManus, La Salle.

Health education of the school teacher is a prime necessity. She should have health, know health, and think health to be eminently successful in her teaching of this subject. There is great necessity for more knowledge of the practical, fundamental truths of health and their teaching. For the school child, the details, theories and non-essentials could well be omitted. Some suggestions are given.

10:20—"The Value of Public Health Instruction and Public Health Work as Seen by the Public Health Official." B. K. Richardson, Springfield.

Some of the outstanding achievements of public health work are cited. Problems of the future as disclosed by research work done by health departments are discussed. Illustrations which show the interdependence of public health work and public health education are portrayed. Public health machinery is regarded as the liaison between medical and sanitary knowledge and the public.

10:40—Discussion of the Symposium on Public Health Education.

1. Layman.....Irene M. Symonds, Hinsdale
2. Physician.....F. J. Maciejewski, La Salle
3. Public Health.....I. D. Rawlings, Chicago
4. General.....A. A. Crooks, Peoria
5. Summary.....
....H. E. Kleinschmidt, New York City

Wednesday Afternoon, May 18, 1932

1:00-3:00—President's Address-Orations in Medicine and Surgery.

3:00—"Necessity of Accurate and Complete Certificates of Births and Deaths." G. Koehler, Springfield.

During 1931 the State Department of Public Health had to write 15,000 letters to the physicians for additional information on birth and death certificates. The paper deals with data required, the physician's responsibility the registrar's duties and the uses made of the data. It also deals with the difficulties of classification, because of indefinite and unsatisfactory terms and confusion as to the principal or major cause of death; deaths from violence; importance of early birth reports; duty to file supplementary data, and other statistical information.

Discussion opened by John W. H. Pollard, Evanston.

3:20—"Immunization Against Scarlet Fever." Ralph P. Peairs, Normal.

One cannot read of the abundant literature on scarlet fever which has appeared during the past five years without being impressed by the fact that there is a difference of opinion as to the advisability of immunization against this disease. That the Dick Test is reliable and immunization is efficient is shown by a study of the records of an institution caring for more than 700 children. This work has been done in co-operation with Dr. Gladys Dick.

Discussion opened by John J. McShane, Springfield.

3:40—"Pasteurization vs. Raw Milk." H. A. Harding, Detroit, Michigan. (By Invitation.)

The pasteurization of milk at a temperature minimum of 142 degrees Fahrenheit for 30 minutes is probably accompanied by some reduction of the vitamin C content. This is easily made good by the feeding of fruit or vegetable juices or cod liver oil.

Pasteurization results in a slight improvement in the keeping quality of the milk, in a softening of the curd as formed in the stomach, and in a marked increase in the safety of the milk.

Discussion opened by N. O. Gunderson, Rockford.

4:10—"Modern Water and Sewage Treatment Works of Springfield." Harry F. Ferguson. Springfield.

A brief description of the Springfield water and sewage treatment works is given in order that the inspection trip to these works will be more interesting and valuable. Both the water and sewage works are as modern and efficient as any in the Middle-West or even in the United States. The water plant besides removing bacterial pollution and turbidity removes iron and softens the water. The sewage works produce a clear effluent containing abundant oxygen and the gas developed from the solids removed from the sewage is now used for heating purposes and probably will soon be used for power.

4:30—Inspection trip to Springfield Water and Sewage Treatment Works immediately following Mr. Ferguson's paper. Transportation furnished. Mr. Ferguson will conduct and explain processes. Make reservations early with the chairman.

Thursday Morning, May 19, 1932

Discussion of Undulant Fever and Other Important Subjects.

9:00—"Brucelliasis in Animals," Robert Graham, Urbana.

Since Brucella infections in man may be traceable to infected goats, cattle or swine, the aim of the live stock sanitarian blends with the objective of the physician and public health officer in the suppression of the disease in animals. The hazard of undulant fever in man is thus reduced. Pursuant to this objective, a state undulant fever commission has been appointed by the Director of the State Department of Public Health to study the different aspects of Brucelliasis in animals and man. For the first time in Illinois all aspects of the disease will be considered under one correlating head. A survey shows goat herds to be free in Illinois, but many cattle and swine herds are infected. The disease can be detected by the agglutination test in the hands of a trained veterinarian. Many farmers, in 85 counties of the state, are now having their herds tested and supervised. As a result more than 60 herds are now accredited as free from Brucelliasis by the chief veterinarian of the State Department of Agriculture.

Discussion opened by H. W. Allyn, Byron.

9:30—"Undulant Fever." Lloyd Arnold, and H. E. McDaniels, Chicago.

Discussion opened by R. O. Stites, Industry.

10:00—"Diseases Transmissible From Animals to Man of Major Public Health Importance." Andy Hall, Director, Department of Public Health, Springfield.

The relative importance to public health of diseases transmitted from animals to man is delineated. Selecting tuberculosis, rabies, undulant fever, septic sore throat, and tularemia as comprising the principal public health problem among the diseases under discussion, an evaluation of control efforts already employed is presented. The principals and technique of control work, are discussed. Close cooperation of physicians, veterinarians and health officers is recommended as an essential to satisfactory progress in combating the diseases.

Discussion opened by Robert Graham, Urbana.

10:30—"Some Legal Aspects of Public Health and Medicine." Clarence C. Griggs, Ottawa.

Starting with the principle that the protection of the public health is one of the first duties of Government, whether Federal, State, Municipal or the local sub-division thereof, the paper will discuss some of the laws and court decisions, especially in Illinois, relating to public health, such as the control of contagious diseases, quarantine, vaccination, adulteration of foods, etc. The paper will also discuss the powers of State and local boards of health.

Discussion opened by A. J. Roberts, Ottawa.

11:00—"The Public Health Aspect of Institutional Care of Indigent Patients by the State Department of Public Welfare." Major Worthington, Chicago.

1. Relation State Department of Public Welfare, University of Illinois Medical Department, and Department of Public Health.

2. Futile effort to establish an industrial disease clinic.

3. Why should the state interest itself in the care of the ordinary sick patients? Is it not a local problem instead of one which is shifted to the state?

4. Reasons for it being a state problem.

5. Mental diseases—prevalence and increase. Care of mental diseases in a psychiatric ward in a general hospital for study, treatment and research.

6. Care of crippled children at Surgical Institute for Children.

7. Maternal care of unmarried State Wards at Research Hospital and care of babies.

8. Research work at the hospitals.

Discussion opened by Lloyd Arnold, Chicago.

SECTION ON RADIOLOGY

E. L. Jenkinson.....*Chairman*
P. G. Goodwin.....*Secretary*

Tuesday Afternoon, May 17, 1932

Community Hall

Joint Sessions with Sections on Medicine, Surgery and Public Health and Hygiene. Program by Guest Speakers.

1:00—"Public Health Education." H. E. Kleinschmidt, New York City.

1:40—"The Toxemias of Pregnancy and Their End Results from The Viewpoint of Internal Medicine." W. W. Herrick, New York City.

2:20—"The Diagnosis and Treatment of Menstrual Irregularities of Functional Origin." Floyd E. Keene, Philadelphia, Pa.

3:00—"The Diagnosis and X-Ray Treatment of Malignant Diseases of Bone." Sherwood Moore, St. Louis, Missouri.

3:40—"Relationship of the Para-thyroid Glands to Calcium Metabolism." David P. Barr, St. Louis, Mo.

4:20—"The Disabled Gall Bladder." Alfred Brown, Omaha, Nebraska.

Wednesday, Morning, May 18, 1932

Library Room

9:00—Chairman's Address. E. L. Jenkinson, Chicago.

9:30—"The X-Ray Diagnosis of Chronic Appendicitis." Harold Swanberg, Quincy.

This paper attempts to evaluate the significance of the visualized and non-visualized appendix, by X-ray examination. The technique of using barium and magnesium sulphate to visualize the appendix is explained, together with the importance of the Roentgen Ray in the diagnosis of chronic appendicitis as practiced by the Holzknecht School of Vienna.

Discussion opened by Perry Goodwin, Peoria.

10:00—"Presenting the Cancer Control Problem to the Public." E. G. C. Williams, Danville.

Experience has shown that in talking about Cancer to lay audiences, the best approach is through definite answers to the six major questions asked by cancer patients and those interested. The questions and adaptation of answers to different audiences are discussed. The same material is used for high school assemblies and university clubs with changes in the manner of presentation.

Discussion opened by M. J. Hubeny, Chicago.

10:30—"X-Ray Treatment of Non-Malignant Uterine Hemorrhage." Maximilian J. Hubeny, Chicago.

The field of application and the usefulness of the X-ray in the treatment of non-malignant metropathies is not sufficiently recognized. Many cases of uterine hemorrhage not associated with demonstrable pathology are amenable to X-ray therapy. An artificial menopause can be produced when needed, and a menopausal change associated with severe depressive symptoms can be considerably relieved and shortened; also selected cases of fibroids respond satisfactorily.

Discussion opened by E. G. C. Williams, Danville.

11:00—"Pneumopericardium Due to a Foreign Body in the Esophagus." Robert A. Arens, Chicago.

An unusually interesting and rare case of pneumopericardium in an infant who swallowed an open safety pin which became lodged in the lower esophagus, the open end perforating the esophageal wall and entering the pericardium, permitting air to enter. The clinical history, progress, and autopsy findings are recorded, with a resume of similar cases previously reported in the literature.

Discussion opened by Harry Olin, Chicago.

11:30—"Factors in The Roentgenological Diagnosis of Non-Opaque Foreign Bodies in The Bronchi." Charles D. Sneller, Peoria.

Presumption for preparing this paper is taken because of the lack of general recognition of important factors which are of much importance and at times basic, in determining the presence of non-opaque foreign bodies in the bronchi. History is important whether negative or positive. Fluoroscopy may lend much information. Roentgenograms at the end of inspiration and at the end of expiration, are fundamental. The roentgenologist and the bronchoscopist should be coworkers, the former indispensable to the latter.

Discussion opened by Henry W. Grote, Bloomington.

Wednesday Afternoon, May 18, 1932

3:15—Business Session. Election of Officers of the Section.

3:30—"Hernia of the Lung—(Pneumocele)." Roentgen Study With Report of Traumatic Case." Harry A. Olin, Chicago.

Any protrusion of the lung covered by pleura which projects beyond the normal boundaries of the thoracic walls through an abnormal opening is a true hernia. A classification according to location and etiology is given, the anatomical factors are considered and the various types are described. The signs and symptoms are enumerated and finally the Roentgen manifestations are evaluated. A traumatic case report is appended. Although a rare condition, a Roentgen study will add conclusive information and clarify the clinical picture.

Discussion opened by Hermon H. Cole, Springfield.

4:00—"Anomaly of the Arch of the Aorta." Report of a Case. D. L. Jenkinson, Chicago.

A case of right sided arch of the aorta with esophageal displacement is presented. There is a survey of cases reported in the literature. The embryological, anatomical and clinical aspects of right sided aorta is fully discussed.

Discussion opened by Aaron Arkin, Chicago.

4:30—"The Radiographic Diagnosis and Management of Mastoiditis." David S. Beilin, Chicago.

The radiographic study of the mastoid is of paramount value in making a diagnosis of mastoiditis. By this method one can study the various groups of cells and note particularly which cells are involved. Although the complications in mastoiditis are relatively infrequent, one may frequently elicit radiographic evidence of epidural abscess or perisinus abscess. The radiographic method of examination of the mastoid is of particular value for check-up purposes—namely, one can study the progress of the infection. The indications for surgery are definitely revealed by this type of examination. This examination affords an excellent method for studying the post-operative mastoid with chronic discharging ear. The observations and facts presented are the result of a recent study of 125 operations on the mastoid.

Discussion opened by Paul Hodges, Chicago.

Thursday Morning, May 19, 1932

In Joint Session with Sections in Medicine and Surgery.

11:30—"Some Observations About the Treatment of Uterine Fibroids.." John Murphy, Toledo, Ohio. (By Invitation.)

RULES GOVERNING THE PRESENTATION OF PAPERS

All papers read by members shall be limited to twenty minutes and remarks in discussion to five minutes, floor privilege being allowed only once for the discussion of any one subject.

All papers read before the Society or any of its Sections shall become the property of the Society. Each paper shall be deposited with the Secretary of the Section when read and the presentation of a paper to the Illinois State Medical Society shall be considered tantamount to the assurance on the part of the writer that such paper has not already appeared and will not appear in medical print before it has been published in the ILLINOIS MEDICAL JOURNAL.

A paper not heard in its scheduled turn shall be held subject to the call of the Chairman of the Section at the end of the regular session if time permits, or as an alternative at the end of the program.

All subjects shall be confined strictly to the subject in hand. No paper shall appear in the printed transactions of the meeting unless read in full or in abstract.

(From the By-Laws of the Illinois State Medical Society.)

EXHIBITORS AT 1932 ANNUAL MEETING

American Medical Association, 535 North Dearborn Street, Chicago.

A. S. Aloe Company, 1819 Olive Street, St. Louis, Mo.

DePuy Manufacturing Company, Warsaw, Ind.

General Electric X-Ray Corporation, Jackson Boulevard at Robey Street, Chicago, Ill.

Gerber Products Division, Freemont Packing Co., Freemont, Mich.

Curdolac Food Company, Waukesha, Wis.

Mead Johnson Company, Evansville, Ind.

Don Baxter Intravenous Products Co., 445 Lake Shore Drive, Chicago, Ill.

V. Mueller & Company, Ogden Avenue and Van Buren Street, Chicago, Ill.

W. B. Saunders Company, Philadelphia, Penna.

Merck & Company, New York City, N. Y.

General Foods Corporation, 250 Park Avenue, New York City, N. Y.

Mellin's Food Company, Boston, Mass.

S. M. A. Corporation, Cleveland, Ohio.

Sharp & Smith, 65 East Lake Street, Chicago, Ill.

Hynson, Westcott & Dunning, Baltimore, Md.

Kellogg Company, Battle Creek, Mich.

Horlick's Malted Milk Corporation, Racine, Wis.

Chas. H. Phillips Chemical Company, New York City, N. Y.

White-Haines Optical Company, Columbus, Ohio.

Medical Protective Company, 360 North Michigan Boulevard, Chicago, Ill.

Uhlemann Optical Company, 55 East Washington Street, Chicago, Ill.

The Zimmer Manufacturing Company, Warsaw, Ind.

Petrolagar Laboratories, 8134 McCormick Boulevard, Chicago, Ill.

Northwestern University Medical School, Chicago, Ill.

St. John's Hospital, Springfield, Ill.

University of Illinois School of Medicine, Chicago, Ill.

Illinois Department of Public Health, Springfield, Ill.

Illinois Tuberculosis Association, Springfield, Ill.

Groves B. Smith, Godfrey, Ill.

Post Graduate School of Surgical Technique, 2512 Prairie Avenue, Chicago, Ill.

Cleveland J. White, Chicago, Ill.

Nathan S. Davis and Samuel J. Lang, Chicago, Ill.

R. B. Davis Company, 38 Jackson Street, Hoboken, N. J.

Lasker Medical Specialties Corp., 250 Park Avenue, New York, N. Y.

The Illinois Society for Mental Hygiene, Chicago.

Ravenswood Hospital, Wilson Avenue at Winchester, Chicago.

American Society for the Control of Cancer, 185 N. Wabash Ave., Chicago.

Amerop Travel Service, 134 N. La Salle Street, Chicago.

NOTES ON EXHIBITS

The Curdolac Food Company of Waukesha, Wisconsin, has been co-operating with the physicians of America for the past six years. By supplying products whereby the diabetic may have a complete diet well within his tolerance for food, the physician is enabled to keep diabetes under control. Not only flour, from which attractive foods may be prepared at home, but an extensive variety of knick-knacks, which the diabetic so sadly misses are offered. For the first time these foods will be exhibited to the doctors of Illinois at your convention in Springfield. No physician dares to promise a cure to diabetics but you can guarantee efficiency and contentment by outlining a diet which will contain three satisfactory meals daily. We will welcome you at Booth No. 18.

In the Sharp & Smith Booth there may be found the most complete line of surgical instruments that is possible for any house to obtain. The exhibit comprises several new items including the Davis Resectoscope, Kirschner Bone Apparatus, Magnuson electric motor and such other specialties as have been developed exclusively by Sharp & Smith. Mr. Frazen, in charge of the exhibit, will be delighted to show any doctor the many new articles on exhibit and to explain their various uses.

Scientific Medical Motion Pictures will be presented by Petrolagar Laboratories in a beautiful, modern display. Visitors may relax and devote uninterrupted attention to this splendid library of films of international reputation. The list comprises twelve exceptionally instructive subjects. Presentations before accredited medical groups may be arranged for any place or date, without charge. Further information may be obtained at Booth No. 5.

Uhlemann Optical Company, Chicago, Illinois.—Exhibit of Ophthalmic Specialties and Equipment distributed and sold exclusively to the Medical Profession.

All members of the Illinois State Medical Society and friends are cordially invited to visit Booth No. 38 of the Medical Protective Company. Mr. M. L. Allen of Peoria will be delighted to have you call, whether merely to say "hello" and renew old acquaintances or to satisfy yourself on some question of malpractice protection. Consider him at your service and feel free to call upon him for anything which may contribute to making this the most pleasant and successful Society meeting you have ever attended."

DePuy Manufacturing Co. will exhibit at the 82nd annual meeting modern Fracture Appliances for the physician and surgeon. The New Improved Bed Pan Bohler Splint (Patent Pending) with double traction. The Simplified Aeroplane Splint, Campbell type. The Portable Rachlin Pelvic Seat (Patent Pending), which will fit either the Hawley or Albee Table and can also be placed on a tripod to be used in the home, as well as the hospital. Patients can be placed on the Pelvic Rest, either in supine or prone position, and rest in comfort. Also the DePuy Cervical Splint (Patent Pending), is a very comfortable and useful appliance for cervical fractures from the first to the fifth vertebrae for ambulatory patients. We also call your attention to the Kirschner Drill and the DePuy Kirschner Bow, Dr. J. A. Keyes type. We cordially invite you to call on us at Booth No. 4, whether you want to purchase anything or not. Your genial friend, "Red" Bates, will be in charge of this exhibit and will be glad to extend you any courtesy. You know you are always welcome.

Merck & Co., Inc., include in their display such well-known preparations as Pyridium—the only azo dye compound offered as a urinary antiseptic, Arsphenamines, Bismosol—the aqueous solution of bismuth, Tryparsamide, Stovarsol, Digitan, Erythrol Tetranitrate, etc. Mr. F. Kraus and Dr. M. V. Burgett will be in charge of the Merck's products at booth No. 11.

Horlick's Malted Milk Corporation in Booth No. 21 will show that carefully controlled experiments have demonstrated that Horlick's the Original Malted Milk, used regularly, builds strength and increases resistance to diseases, due in part to the fact that Horlick's is a good to excellent source of Vitamins and Minerals. Special packages of Horlick's Malted Milk Tablets are also being distributed as a reminder of their usefulness, as a pleasing variant in the liquid diet, or as a beneficial confection for children in place of candy. Horlick's Maltose & Dextrin Milk Modifier is also on

display, which has achieved a marked success for use in infant feeding.

Effective, Palatable, Convenient—these qualities are typified in Phillips' Milk of Magnesia Tablets. Each tablet contains 4.8 grains of freshly precipitated Magnesium Hydroxide-Mg (OH)2 in its highest purity, the magnesia equivalent of one teaspoonful of Genuine Phillips' Milk of Magnesia. All the therapeutic effects of Genuine Phillips' Milk of Magnesia can now be obtained in the form of a friable mint-flavored tablet which rapidly disintegrates in the mouth or stomach and produces prompt results. Samples may be obtained at Booth No. 8.

The A. S. Aloe Company of St. Louis, Missouri, invites visitors to the 82nd Annual Meeting of the Illinois State Medical Society to visit booth number 1, where may be seen a complete line of "Super-X" Chrome Plated Instruments, together with a large showing of Surgical Equipment and Supplies. The A. S. Aloe Company wishes to call the attention of the profession to their new low prices on everything for the professional man.

W. B. Saunders Company will exhibit a complete line of their publications of interest to physician, surgeon and specialist. Included will be a large number of new books and new editions. Of particular importance is the work of Drs. Trumper and Cantarow on Biochemistry in Internal Medicine—really a clinical interpretation of biochemical findings; the new Mayo Clinic Volume; a completely rewritten edition of Bastedo's Materia Medica and Therapeutics; a new edition of Pelouze's work on Gonorrhea in the Male and Female: a new edition of Cecil's Medicine, of Todd and Sanford's Clinical Diagnosis; a new work on Hemorrhoids and Anal Pruritus by Dr. Buie; Graves' Female Sex Hormonology; new edition of McLester's work on Nutrition; new edition of Stevens' Practice of Medicine, of Wechsler's Clinical Neurology and of Jordan's Bacteriology. Among the important standard works are Graham's Surgical Diagnosis; Blumer's Bedside Diagnosis; Medical Clinics of North America and the Surgical Clinics of North America; Beckman's Treatment.

The Kellogg Company, Battle Creek, Michigan, will serve Kaffee Hag Coffee with All-Bran Muffins to visitors at their booth at the Illinois Medical Convention. Kaffee Hag Coffee is a blend of fine coffees from which 97 per cent. of the caffeine, together with the indigestible wax have been removed. The fine flavor and aroma are not impaired and doctors will find Kaffee Hag Coffee a satisfactory non-stimulating beverage to suggest for special diets. Kellogg's All-Bran contains valuable quantities of assimilable iron and Vitamin B and because of its bulk is valuable in correcting cases of atonic constipation. Mrs. Winifred Loggans from the Home Economics Department will be in charge of the exhibit.

Mead, Johnson & Co. will have on exhibit its complete line of infant diet materials, including Mead's Dextri-Maltose, Mead's Cod Liver Oil, Mead's Viosterol, Mead's Recolac, Mead's Non-Curdling Powdered Protein Milk, Mead's Lactic Acid Milk, Mead's Powdered Yeast, and Mead's Cereal. There will also be for the examination of physicians a complete line of Mead's services, such as diets for older children, height and weight charts, etc., all of which are free to members of the medical profession in any quantity desired. Representatives will be on hand to meet their friends and to discuss the application of any of the Mead products to infant feeding problems.

Allergy is a subject that is earning greater attention from physicians these days because it appears that a number of obscure ailments may be traced to allergic conditions. The Research Division of the S. M. A. Corporation has developed a new product known as Smaco Hypo-Allergic Milks, which is especially prepared for individuals sensitive to milk. Go to their Booth Number 20 and learn about this product, and ask their representative for a copy of their twenty-four page booklet entitled "Milk Allergy" which covers the subject quite completely. S. M. A., the antirachitic breast milk adaption, Protein S. M. A. (Acidulated), a special form of S. M. A. for diarrhea cases, as well as their various Smaco milk products for difficult feeding cases, are also on exhibit.

At Booth 12 unseasoned, strained vegetables are of interest because they offer an opportunity for better control of infant and special diets and insure uniformity in feedings and diets. Visitors at the Gerber Products booth will be given any information wanted concerning the special process used in manufacture of these products. New booklets are available—one on infant feeding for distribution by physicians in their practice and on therapeutic diets for professional use.

A decided innovation for the intravenous administration of Glucose will be exhibited at Space Number Three at the coming Springfield meeting of the Illinois State Medical Society. This is known as the Vacoliter (Baxter) Glucose solutions and, we are informed, combines a sterile, protein-free glucose in various percentages that keeps indefinitely and a calibrated container from which the solution is administered direct to the veins of the patient. This product is said to fill a long-felt want for those interested in the intravenous use of this valuable therapeutic agent. Apparently all expensive glassware and breakage is eliminated, and the hospital relieved of the responsibility of preparation. Certainly a great convenience for emergencies, at night—as a home use—its instant availability should appeal to all.

An interesting exhibit of optical products will be found in Booth No. 37, which will be the space occupied by the White-Haines Optical Company, wholesale opticians, who have Springfield offices and shop located at

526 E. Capitol Avenue. The White-Haines exhibit will be in charge of Mr. E. F. Wildermuth, General Sales Manager of the company, Mr. Donald Hunter, White-Haines representative, and Mr. Joe Kihn, Manager of the White-Haines, Springfield. Bausch & Lomb products are to be featured, including Orthogon full-vision and Soft-Lite glare-free lenses. A new "far and near vision" lens, called panoptik, which is said to give the presbyopic patient "natural vision with comfort," will be explained. Another bifocal to be featured, according to White-Haines, is the new color-free Orthogon "D." Particularly interesting will be the display of Bausch & Lomb Ophthalmic instruments, including the new Binocular Ophthalmoscope which has aroused so much interest lately among eye physicians. In addition to instruments and lenses, a beautiful new line of frames and mountings with the new comfort improvement, Bal-Guard, are to be displayed as a feature of the White-Haines Blue Ribbon Rx Service. Be sure to see the White-Haines booth in space No. 37 if you are doing eye work.

The most recent and approved apparatus for bone surgery will be prominently displayed by V. Mueller & Co. at their exhibit in connection with the 82nd annual meeting of the Illinois State Medical Society, to be held at Springfield, May 17-18-19. Of special interest will be a demonstration of the Bendixen-Kirschner Apparatus for skeletal traction and the Bendixen Bone Clamp for open reduction of fractures. The V. Mueller exhibit will also include a representative showing of the 10,000 items regularly carried in stock at their Chicago headquarters. Salesmen will be on hand at all times to explain or demonstrate any instrument or piece of equipment on display and to furnish illustrative literature.

The source, nature and amount of nutritive elements that enter into the making of Mellin's Food, the composition of the finished product, the caloric value of various quantities by weight and by measure and what Mellin's Food accomplishes as a modifiêr of milk in the feeding of infants and adults are subject matters for discussion at Booth No. 13. All physicians are cordially invited to call, to ask questions and to offer suggestions that will lead to a thorough understanding of Mellin's Food and its purpose.

The Lasker Medical Specialties Corporation, 185 N. Wabash Ave., Chicago, will have an interesting exhibit at booth No. 25. Among the exhibits will be shown the very latest in diathermy and high frequency cutting machines of interest to members of the medical profession. Among the diathermy machines will be the new therapeutic fever machine, which has been successfully tried out in competition with other machines of this type in various parts of the country.

Dr. Abt's electric breast pump, which has been used so successfully in many hospitals, and by many pediatricians throughout the country, will also be a feature of this exhibit.

All members and guests at the meeting are cordially invitcd to inspect the articles shown at booth number 25, and receive literature concerning them.

Hynson, Westcott & Dunning, Inc., will occupy Space No. 14 and will feature Thantis Lozenges—the latest product from their research department. This product is meeting with much satisfaction in the field of throat infections and is of special value following tonsillectomies. Thantis Lozenges contain each ⅛ grain merodicein and 1 grain saligenin, the former a powerful bactericidal and bacteriostatic agent and the latter an effective local anesthetic for topical use.

Mercurochrome will also be exhibited and full information concerning it will be available. An applicator bottle for personal use will be presented each doctor visiting the exhibit.

The General Electric X-Ray Corporation, 2012 Jackson Boulevard, will exhibit at booths numbers 16 and 23. The latest product of this well known manufacturing company will be shown in their exhibit. Modern x-ray equipment, to meet the requirements of practicing physicians and small hospitals interested primarily in diagnostic work, will be shown. Other equipment to meet the requirements of the most exacting specialists in radiology are also available, and complete information concerning any of the General Electric Corporation products featuring "safety and efficiency" will be gladly given upon request for the same.

"Sanka Coffee is real coffec of rare excellence. It has been accepted by the Committee on Foods of the American Medical Association with the statement: 'Is free from caffein effect and can be used when other coffee has been forbidden.'

"Sanka Coffee is decaffeinated before the coffee beans are roasted which leaves intact all its mellow flavor and fragrance. It is so rich and satisfying in flavor that the patient never craves caffein containing coffee.

"Visit booth No. 17 and taste for yourself the deliciousness of Sanka Coffee."

The Zimmer Manufacturing Company, Warsaw, Ind., will show all types of fracture appliances at booth No. 9. Aluminum x-ray splints, fracture beds, extension and suspension apparatus. Representatives of the company will be present to explain the merits and use of these many articles, in the treatment of fractures. A number of new and highly interesting specialties, of use especially to the bone surgeon will be a part of the exhibit.

The Post Graduate School of Surgical Technique, 2512 Prairie Avenue, Chicago, Illinois, a school for the teaching of surgical technique open to graduates of medicine in good standing who are engaged in surgical practice. Courses are given as follows: A three months course in pathology, dissection and surgical

technique; a two weeks course of extensive surgical practice and special courses for the man who is practicing in a given specialty and who wishes to improve his knowledge of anatomy, surgical pathology and a more extensive training in the technique of surgery.

NOTES ON SCIENTIFIC EXHIBITS

The American Medical Association will have an interesting exhibit showing in detail what the Association is doing not only for the Medical Profession of America, but also what it is doing to protect the public in general, from false representations made by many who prey on the afflicted citizens. Among the several departments to be represented in this exhibit are the Council on Pharmacy and Chemistry, Chemical Laboratory, Bureau of Investigation, Council on Medical Education and Hospitals, Bureau of Legal Medicine and Legislation, the Library, Bureau of Health and Public Instruction, and the Council on Physical Therapy. This will be an unusually interesting exhibit for all members and guests at the meeting.

The Illinois Department of Public Health will have a joint exhibit with the University of Illinois College of Medicine. These exhibits are designed to give an understanding of the disease from the standpoint of mortality and a presentation of methods of control and prevention. The units include of pathological specimens, X-ray pictures, motion and still pictures, wax models, and microscopical views relative to each disease. Reasonably careful inspection of these exhibits gives to the observer a very practical conception of the historical importance of each of the diseases and of its present importance as a medical and public health problem. It will also give the observer a practical knowledge of how these particular diseases can be controlled and to what degree control measures are effective at the present time. The exhibit on slaughter house meat inspection and the one on distribution of milk emphasizes particularly the importance of sanitary precautions in connection with food supplies. These exhibits are made up in the following units: Tuberculosis, Pneumonia, Typhoid, Diphtheria, Heart, Cancer, Animal Experimentation, Slaughter House Meat Inspection, Milk Distribution.

The Illinois Tuberculosis Association will have an unusual exhibit, which is being prepared for the Annual Meeting of the American Medical Association to be held in New Orleans, the exhibit being arranged by Dr. H. E. Kleinschmidt of New York City, who, with the Executive Secretary of the Illinois Tuberculosis Association, Mr. W. P. Shahan, will show the exhibit at the Illinois State Medical Society Springfield Meeting. The exhibit is a display of X-ray pictures made on paper stock and celluloid stock of identical patients, displayed in multiple viewing boxes, with a viewing device. The new paper films are only recently displayed for exhibit purposes, and we are indeed fortunate in being able to show this demonstration as a Scientific Exhibit.

Northwestern University Medical School, Chicago, will have some interesting exhibits, one of which is to be shown by Dr. Cleveland J. White, of the Department of Dermatology, on "Cancer of the Skin." This exhibit consists of photographs, pathology and charts relative to treatment and clinical findings in 172 interesting cases.

Nathan S. Davis, and Samuel J. Lang, of Chicago, will have an exhibit on "Hypertension," with the result of treatment with calcium lactate, potassium thiocyanate, bismuth subnitrate, and sodium nitrate, together with charts illustrating seasonal variations and the frequent occurrence of heart failure symptoms when the blood pressure is lowered for one reason or another.

Dr. Groves B. Smith of Beverly Farm, Home and School for nervous and backward children, of Godfrey, Illinois, will have an interesting exhibit entitled "The Occupational and Educational Relationships in Mental Deficiency." This will be shown by motion pictures, and also a demonstration will be made of the work many of these backward children are doing in the school.

St. John's Hospital, Springfield, will demonstrate their interesting and complete system of record filing, and cross filing, which will be of interest to all physicians interested in hospital work. This system has been built up after many years of work, and it is believed to be one of the best systems of the kind in use anywhere at this time. The exhibit will be in charge of Dr. Walter G. Bain, the Medical Superintendent.

The Illinois branch of the American Society for the Control of Cancer will have an unusually interesting exhibit, consisting of pictures, charts, graphs, showing many intresting facts pertaining to cancer, its prevalence, and the work that is being done throughout the country in an effort to interest the profession and the public toward earlier diagnosis of this dreaded disease. This exhibit is well worth the time of everyone attending the meeting to look it over carefully and be better able to do their part in the National Program of Education to lower the death rate from cancer.

COOPERATIVE CLINIC TOURS

In special connection with the centennial anniversary meeting of the British Medical Association.

Organized under the official auspices of 24 American Medical Journals, State and City Societies, these tours will enjoy an entree in professional circles that will be of greatest value to the American physicians in the parties.

In addition to the clinic features these tours include a full program of local sightseeing in every city visited

with the expert guides and lecturers of AMEROP Travel Service under whose business management the tours are operated.

These tours will provide also some of the finest hotels in Europe and yet the prices are extremely low, due to their cooperative basis.

On the ocean, these tours are scheduled to use the great S.S. "Bremen" and "Europa," the fastest and most palatial ships in service between the United States and Europe.

Secure a descriptive booklet and further information from Dr. B. W. Van Riper of AMEROP Travel Service, who will be at the meeting.

The Illinois Society for Mental Hygiene will have an interesting exhibit in charge of their secretary, Helen L. Myrick. The exhibit will show many things of interest in connection with the work of this Society, and the necessity for a greater understanding on the part of the medical profession, of this important work.

NOISE

The effects of continuous noise on the human body and the nervous fatigue induced by excessive noise are difficult to evaluate. An engineer* says that "within a generation, noise will vie with disease unless the same mechanical ingenuity that has called the mechanical robot of the age into existence shall also be able to endow it with a soul of quiet." City dwellers are saturated with noises that emanate from street traffic, railways, radios, hucksters, factories and what not. The consequence is lessened efficiency, irritability and, in some cases, neurosis. The growing menace of noise and vibration has already called forth an emphatic protest in various parts of the world. The effect of noise on the human organism is being widely investigated. To date, research has shown that sudden noise increases the rate of the heart and respiration and the blood pressure of man and animals. A significant fact shown by experimentation is that the mental effort of the more highly developed individuals is hindered by noise, whereas less mentally developed persons seem to be helped in this way. Sudden noises cause fear reactions which become apparent in muscular tension. Muscular relaxation is difficult, if not impossible, in a noise environment. The Noise Commission of the City of New York has made the first comprehensive measurement of the average noise level of city streets, taking more than 7,000 readings at many different places. The relative noise level was determined by instrumental measurement of the intensity of sound. The results of the survey show that there are many places in New York where a Bengal tiger could roar without being heard at a distance of twenty feet. Of the complaints of noise in New York, 53 per cent. of a total of 11,068 concerned automobile traffic and rail transportation. For years this problem has been carefully studied in England, where one of the great sources of noise is machinery used in the manufacture of textiles. As long ago as 1917, a National Fatigue Elimination Day was initiated as a means of directing attention to preventable noise. In the United States, measures have been taken in several places to prevent noise. Some cities have experimented with the "noiseless" street car. Patented noise-presenting rails for street railways are in use in others. The American Electrical Railway Engineering Association has appointed a committee to study actively the problem of noise and vibration. The prevention of noise is largely an engineering problem. While at present certain legal restrictions on noise may be properly imposed, scientific research is necessary to set up definite standards for measuring the quantity and quality of noise in relation to its effect on the individual.—*J. A. M. A.*

*Slocum, S. E.: Noise and Vibration Engineering, New York, D. Van Nostrand Company, Inc., 1931.

GIGOLO VERSUS PROSTITUTE

The prostitute seems to have disappeared from our streets and from the former "red light" districts. There are no more "houses of ill-fame." Solicitation has practically passed. And yet economic conditions are bad.

Especially bad for many men. They have taken the economic place of the old prostitute and are now more or less kept by employed or economically independent women. Even many men who are not unemployed are fed, housed and entertained by such women. This partially accounts for the marriage slump.

A woman paying the bills of a man was formerly exceptional. Now it excites not a ripple. These disguished gigolo are briskly competed for.

So the picture has been inverted.

This situation should affect venereal disease incidence, since the gigolo is no such large-scale menace to others as was the prostitute. This, however, is not to be interpreted as a good word for the rat.—M. T. & L. I. M. J.

PROCAINE DERMATITIS

Bart M. James, Newark, N. J. (*Journal A. M. A.*, Aug. 15, 1931), describes the case of a woman, aged 38, who had been suffering continually for six months from a severe dermatitis of both eyelids and adjacent portion of the cheeks and nose. This had been ascribed to various causes, and all treatment had been of little benefit. The skin of both eyelids was markedly swollen, edematous and was a dusky red. The eruption was in an unusual location for a dermatitis due to an external cause and it was only by persistent questioning of the patient and by the use of the patch test with various substances that the cause (procaine) could be found. Following the removal of the cause and with simple therapeutic measures, the condition promptly disappeared. The absolute proof of the causative agent was obtained by means of the patch test, and the value of this test was again demonstrated in determining the cause of eczematous dermatitis of obscure origin. An unsuccessful attempt was made to link the chemical constitution of a certain group of related substances with their idiosyncrasiogenic effects.

POINTS OF INTEREST IN SPRINGFIELD



Illinois State Capitol



Lincoln Monument in Oak Ridge Cemetery



Lincoln Homestead, Springfield



Illinois Centennial Building



Abraham Lincoln Hotel (Headquarters Hotel)



St. Nicholas Hotel



Leland Hotel



Elks Club (Opening Meeting)



VIEWS IN OLD SALEM STATE PARK

Rutledge Inn (at top); the Custodian's Residence and Museum; restored Lincoln and Berry Store; view of Sangamon River from New Salem Hill.



Knights of Columbus Building (General Sessions Here)



The O'Connor Lincoln Statue

CO-OPERATION

Two fool jackasses—now get this dope—
Were tied together with a piece of rope.
Said one to the other: "You come my way
While I take a nibble at this new-mown hay."

"I won't," said the other, "you come with me;
For I too, have some hay, you see."
So they got nowhere; just pawed up dirt,
And oh, by golly, how that rope did hurt.

Then they faced about, those stubborn mules,
And said: "We are just like human fools.
Let's pull together. I'll go your way,
Then come with me, and we'll both eat hay!"

Well, they ate their hay and liked it, too,
Swore to be comrades, good and true;
As the sun went down they were heard to say:
"Ah, this is the end of a perfect day."

Now get this lesson—don't let it pass;
Learn this one thing from the poor jackass:
We must pull together—'tis the only way
To put business on the map and put it to stay.

WE ASK A QUESTION

We ask a simple question,
For truth is all we wish—
Are fishermen all liars
Or do only liars fish?

Correspondence

I THINK THE deKRUIF ARTICLES ARE AN IMPOSITION UPON AMERICAN WOMEN AND CREDULOUS READERS EVERYWHERE

Silvis, Illinois, April 19, 1932.

Philip G. Rose, Editor,
The Country Gentlemen,
Curtis Publishing Co.,
Independent Square,
Philadelphia, Pa.

My Dear Mr. Rose:

I have your letter of April 18 with reference to an article, Subvisible Rattlesnake, appearing in your May issue. For your information I may say that I think that the Curtis Publishing Company has been imposed upon. This Company is too old and conservative to be accused of any wilful wrongdoing, but I think that it is a fact that the deKruif articles are an imposition upon American women and credulous readers everywhere.

I have not read the article in question and wish that I might be spared that chore, but it will probably be forced upon me. I have read Paul deKruif's articles in the past and have the matter freshly in mind because of the recent reading of the one which appeared in the March issue of the *Ladies' Home Journal*. That article is interestingly written and carries, for the casual reader, every appearance of having been based upon truth and reliable information. The fact is that such is not the case. In that article Mr. deKruif makes inaccurate statements and states direct untruths. Charity prompts me to hope that the reason is ignorance rather than malice. Certainly, Mr. deKruif's past training does not qualify him to discuss surgical procedure in the conduct of labor.

I refuse to believe that the Curtis Publishing Company in either of its named publications is desirous of departing from its well known policies of the past. However, the deKruif articles appeared elsewhere at earlier times. The medical profession of the United States is a trustworthy group of workers which struggles valiantly to overcome whatever faults it must confess. I suspect that you can agree that there is no higher minded or intelligent group of workers in the country.

I think it is a fact that every public health measure ever proven to have value and made to continue in the practices of this country has not only originated with the medical profession but has also been pushed and fought for and put over by and carried into effect by the members of that profession. That public good may be accomplished in the matter of maternity by scurrilous attacks upon that profession is no more to be expected in the matter of maternity than in other matters.

The medical profession has been more deeply concerned in maternity matters for many years past than the readers of Curtis publications ever will get to be and I think it is true that responsibility is recognized, faults deplored, and successes made a cause for great congratulation beyond Mr. deKruif's power of appreciation.

The present article may be forced upon me, but, in view of past experiences, I fully expect to find it painful and should prefer to be excused. I am sending a copy of this letter to the Editor of the *Ladies' Home Journal* for his information.

With good wishes for constructive work on the part of your publication, I am,

Yours very truly,

Wm. D. Chapman, M. D.

Copy to Editor, *Ladies' Home Journal.*

BOTH MATERNAL AND INFANT MORBIDITY AND MORTALITY HAS BEEN MATERIALLY REDUCED IN FIFTY YEARS

Springfield, Ill., April 20, 1932.

Frederick W. Schlutz, M. D.,
Professor and Chief,
Department of Pediatrics,
University of Chicago,
Chicago, Illinois.

Dear Doctor Schlutz:

You were kind enough to accept our invitation to attend the Health Officers Conference in Springfield in December, and address the groups at a banquet one evening. Your subject was "Medical Aspects of the White House Conference."

Many of the addresses given in this group were considered quite valuable to the medical profession and were incorporated in the *Illinois Health Quarterly* January-March, 1932. Among the papers published was your address. We did

not delete anything given in these papers, but published them as they were delivered, without comment. Recently I have been receiving letters from the medical profession commenting on certain papers. Among these is a letter that came in this morning in which the writer states: "In Illinois Health Quarterly, Vol. 14, No. 1, page 30, the following statement is made: 'Morbidity and mortality of the mother and infant has not been reduced in fifty years. It is as high today as it was that long ago.'" The writer says that he was sorry that Dr. Schlutz made that statement, that he does not believe it is true; at least, it has been false so far as his section of the country is concerned.

Doctor, I heard you make the statement and it did not register as being correct so far as Illinois is concerned. Referring to our records, I find that in 1920, 1,141 mothers died and the rate was 8.2. Ten years later, 1930, only 693 mothers died and the rate was 5.4. In 1920, in Illinois, 11,641 infants died and the rate was 87.5. In 1930, 7,152 infants died and the rate was 55.8. Your statement that the mortality has not been reduced in fifty years is not in keeping with the records in Illinois, for I find that in 1882, which is fifty years ago, 10,772 infants died in this State, with a rate of 229.2, which is more than four times what the rate is today.

Recently an article appeared in the *Ladies' Home Journal,* by Paul de Kruif, in which he made statements that were just as far from the facts as the statement that you made in your address at our Health Conference so far as Illinois statistics are concerned.

I am wondering from what sources you gained your statistics to justify the statement made in your address and will appreciate any light that you can throw on this subject.

Andy Hall, M. D.
Director of Public Health.

P. S.: Enclosed you will find the *Health Messenger* for September 1, 1931. I want to call your attention to the article on the front page entitled "Big Drop in Maternal Mortality." Also the article on page 67, entitled "Maternal Mortality Here and Abroad."

I have never believed and do not yet believe that our maternal and infant mortality is much at variance with that of other countries, if measured by the same yardstick. I believe that our physicians are more careful and accurate in their diagnosis than are the physicians of some other countries. You will note the great number of deaths as a result of "Unknown Causes" and of Old Age in some of the foreign countries compared with that in Illinois. A. H.

ALL SO-CALLED RADIOACTIVE SUBSTANCES ARE NOT RADIUM.

To the Editor: Thorium and its products, mesothorium, radiothorium and thorium X (the gas corresponding to radon from radium) have a life cycle of only six years and are many times more active than radium, temporarily. They are of great importance in certain arts. For example, in the manufacturing of luminous watch dials an insoluble radium salt, notably the sulphate, is used. Thorium oxide, or thoria, is employed in making Welsbach incandescent gas mantles.

As is well known, these sources of radiant energy have produced certain destructive processes among the workers. The recent disasters resulting from the drinking of waters artificially impregnated with mesothorium (so-called radithor water), which have been given wide publicity in the lay press, are in the same classification but in no way related to the use and effect of small controlled doses of the chloride of radium and its emanation.

Radium salts were accepted by the Council of Pharmacy and Chemistry in 1919 and have appeared in all subsequent issues of the New and Non-Official Remedies. To make clear the terminology of the subject and show its official standing, the following quotation is taken from the 1926 edition of New and Non-Official Remedies:

"The units commonly used for expressing radioactivity are:

1. Milligrams and micrograms or radium element (in cicrogram is 0.001 mg.).

2. Curies, millicuries and microcuries of radium emanation, the curies being the quantity of emanation present when 1 Gm. of radium element is in equilibrium with its disintegration products.

3. Mache units. It is generally considered that 2,700 mache units express the equivalent of one microcurie of radium emanation. The use of the unit for denoting quantities of radium

emanation should be discouraged, because (1) a number of definitions for this unit are in use; (2) it denotes concentration rather than quantity, and (3) it is too small for general use.

The terms compounded with gram are used in reporting analyses of the actual radium content of radium preparations. The terms compounded with curies express the quantity of radium emanation.

Purchasers of radium salts are often concerned about the content of *mesothorium;* but the Bureau of Standards has found no evidence of an appreciable percentage of mesothorium in any preparations from domestic producers that it has tested over intervals of time greater than six months.

A letter from the director of the Bureau of Standards (J. A. M. A. 74:1731 (June 19, 1920), contains these statements:

'The carnotites, from which the domestic radium is produced, are known to contain only a negligible amount of mesothorium. Tests made on radium produced from such ore gave no evidence of the presence of mesothorium, and were such as to indicate that the mesothorium present cannot exceed 0.2 per cent. of the radium content of the material. Consequently, it is quite safe to assume that the radium produced from these deposits will be practically free from mesothorium unless the latter product is deliberately added. This is a matter over which the producer has control and concerning which he can speak with confidence. It is customary for the domestic producers of radium to guarantee that their product is practically free from mesothorium, and such a guarantee might well be requested by the purchaser.

Although the examination of a hermetically sealed radium preparation for the presence of mesothorium forms no part of the routine measurement of such materials by the bureau, such examination will be made when requested under conditions that justify the work. These examinations are laborious, require the opening of the preparation and the removal of some of the salt, and involve the risk of a considerable loss of material. As in the case of all tests made by the bureau, the applicant must furnish the material used, assume the risk by loss, and pay a fee commensurate with the labor involved.' "

Radium is changing at such a rate that in about seventeen hundred years half of any quantity will have changed. Radium emanation is a heavy inert gas, having a density 111 times that of hydrogen. It has a half period of 3.85 days, that is, one-half of the emanation decays in that length of time.

In view of the fact that the soluble chloride of radium and its emanation have proved of such great clinical value in the work of hundreds of clinicians throughout the world for the past twenty-five years, more especially in Europe, we must not confuse this form of radiant energy with some harmful products such as mesothorium and radiothorium.

To again repeat, radium chloride has been definitely approved by the Council of Pharmacy and Chemistry and its beneficial use demonstrated by hundreds of physicians. This form of therapy cannot be compared to a drug. It is a radiant energy and acts the same as the radiant energy from the sun acts on plant life. It should be used by physicians only who are especially trained in this work and who thoroughly understand its use. Small doses are very beneficial, in certain pathologies, if followed up at intervals of from five to ten days and its results carefully studied. After definite improvement, the dosage should be decreased and the intervals of administration lengthened. Longer or shorter rest periods may be advisable, as determined by clinical experience of skilled physicians in this form of therapy.

The rate of elimination of radium chloride from the body was definitely determined by the work of Siel, Viol and Gordon in 1915, and recently by Herman Schlundt, who made exact measurements in dozens of cases for me.

The disintegration theory of Rutherford and Soddy explains in a rational manner the transformation which radium and the other radioactive substances undergo. According to this theory, substances exist in nature whose atoms, unlike those of most elements, are not stable but are constantly undergoing spontaneous disintegration. These are known as radioactive substances. The rapid disintegration or "explosion" of the atoms of such substances results in a rearrangement of the electrons composing the atoms. In a given time a certain definite proportion of all the atoms of a radioactive substance becomes unstable and breaks up. An Alpha particle or ray, or beta and gamma rays are given off in the process of disintegration. In a few cases, as in the case of actinium, which transmutes into radioactinium, disintegration of the atom apparently takes place without rays being given off. There is chemical evidence that leads to the belief that in these "rayless" changes there

is really emitted a low speed beta ray which, because of its low velocity, escapes detection. When an alpha particle is given off as a consequence of the disintegration of the atom, the resulting atom is always lighter than its predecessor and possesses different physical and chemical properties. This is well illustrated by radium and its next transformation product, radium emanation, which are strikingly dissimilar, as we have seen.

Quoting Victor F. Hess as follows:

"It is well known that alpha, beta and gamma rays of radium differ widely in their power to ionize or to produce chemical and biological effects. If only gamma rays are used in medical work, only about 5 per cent. of the energy of radium is used, while 95 per cent. is absorbed and converted into heat within the preparation, the glass and the filter walls. Even where both beta and gamma rays are used, the useful radiating energy does not exceed 11/135 of the total radiation. In other words, even in thin sealed containers buried in the tissue only about 7 per cent. of radiant energy is available. More than 90 per cent. of the energy is sent out in alpha rays which, though they have a very high ionizing power, cannot penetrate a glass tube whose walls are 0.5 mm. thick. . . .

"Recent experiments, however, have shown that the ionizing power of the alpha rays can best be utilized medically in intravenous injection of pure radium solutions. In all other possible ways of internal administration of radioactive substances a smaller percentage of the given dose is utilized. It is shown that alpha rays can act upon living cells of the human body only when the radiating substance is mixed with the blood or lymph."

I wish again to issue warning to physicians and laymen against the use of solutions containing *mesothorium*.

Findley John.

THE PUBLIC HEALTH INSTITUTE AND SIMILAR ORGANIZATIONS IN ORDER TO QUALIFY ETHICALLY MUST CONFORM IN ITS ADVERTISING TO THE PROVISIONS OF THE CODE

Chicago, Ill., April 12, 1932.

Joseph H. King, President,
and the Board of Trustees,
Public Health Institute.

Gentlemen:

Dr. Kretschmer, Chairman of the Council, reports that in a recent interview, your Group expressed the desire that the representatives of the Chicago Medical Society should authoritatively offer suggestions for changes in the various procedures of the Institute which could be considered by your Board as a basis for accommodation with the Chicago Medical Society.

In response to this invitation it may be stated that at the present time the Society finds that the ideals which govern the publicity of the Institute, seem to cause the most dissatisfaction.

A bank or an insurance company can be a reliable and competent organization conducted by honorable men in such a manner as to be highly creditable and advantageous to the community but, nevertheless, for the protection of the public, definite restrictions are imposed by State or Federal authorities before such corporations can do business as legitimate rather than as "wildcat concerns."

For the same reason, namely, for the protection of the public, the American Medical Association has devised certain rules of conduct which, added to and altered from time to time, are known and observed by all conscientious medical men as the Code of Ethics.

In this Code, one of the prominent sections prescribes the character of the advertising which can be honorably employed by an individual or institution anxious to acquire or retain ethical standing. According to the principles laid down in the code, an ethical individual or institution in medicine may be defined as one who or which not only does competent professional work but also complies with the Code of the American Medical Association in regard to advertising.

By corollary, it is obvious that any individual or institution which advertises in violation of the Code thereby frankly declares him, or itself unethical and there is nothing in the Code which absolves from this restriction either part-pay, not-for-profit, or even all-charity institutions.

Therefore, if the Public Health Institute or any similar organization desires to qualify as an ethical unit, it must conform in its advertising and otherwise to the provisions of the Code. The Code states plainly—(Chap. II, Art. I, Sec. IV.) that, "solicitation of patients by physicians as individuals or collectively in groups, by whatsoever name these may be called, or by institutions or organizations, whether by circulars or advertisements, or by personal communications, is unprofessional. This does not prohibit ethical in-

stitutions from a legitimate advertisement of location, physical surroundings and special class, if any. of patients accommodated."

It seems to the Council of the Chicago Medical Society that nothing could be clearer than this statement and according to the well defined limitations of the Code, the Public Health Institute can become and remain ethical ONLY by restricting its advertising to some such form as,—

PUBLIC HEALTH INSTITUTE
of Chicago
Practice limited to venereal disease
Men's Dept. 159 North Dearborn Street
129 East Randolph Street
Women's Dept. 72 East Randolph Street

The claim that the Institute is conducted on a "not-for-profit" basis is one of the cardinal features of its publicity campaign. For this reason, if no other, the temptation to solicit business for commercial success seems wholly unnecessary, and hence the Chicago Medical Society feels that the unethical advertising could be readily abandoned without injury to the Institute and with definite relief to the public.

Submitted to the Council and passed upon by that body at the meeting of April 12th. Approved and herewith officially transmitted.

Public Relations Committee
Philip H. Kreuscher, Chairman.
Charles B. Reed, Secretary.

ANNOUNCING THE CONGRESS INTERNATIONAL DE LA LITHIASE BILIARE

Vichy, France

September 19-22, 1932

Under the patronage of the leading clinicians and investigators of France, an important series of symposia dealing with ailments (particularly calculi) of the liver and biliary tract has been arranged. Representative authorities from the leading countries of Europe, North and South America and Asia will present these or take part in the formal discussions.

All phases of the subject chosen will receive attention. The sections upon roentgenology, experimental investigation and therapy offer unusual progress. The leading surgeons of Europe will present the latest in operation technique. There will be an unusual pathologic exhibit.

An attractive series of social and recreational features has been planned in a beautiful environment.

Participation in all the educational and social features of the Congress is secured by registration and the payment of a fee of 50 francs (French).

Reduced rates for travel and hotel residence have been secured.

The official program of the Congress and information respecting steamship rates, hotel accommodations, etc., may be secured by addressing.

Frank Smithies, M. D.,
President of the Congress for the United States.
920 N. Michigan Avenue,
Chicago, Illinois.

MAKE-BELIEVE MOTHERHOOD IN A MATERIAL AGE

At an age when their great-great-grandmothers were real mothers, the girls of high school age in the Dalton Schools, Inc., of New York City, are being taught how to care for the babies of women of good social background who have to work for a living.

This motherhood by proxy, this vicarious, phantom motherhood, is to be tentatively commended because it purports to be preparation for actual motherhood. But doubt arises as to the ultimate outcome, for adjustment to our more and more material age says nay to motherhood.

If these girls can never achieve real motherhood the program of the school is a cruel one, for they are said to be thrilled at the idea of baby care—probably at home there have been few or no baby contacts.

What a strange situation motherhood finds itself in today. Girls who can perhaps never achieve motherhood are caring for the babies of married working women who are so "unfortunate" as to have met with the "sad" biologic accident that confers motherhood. As they grow older forces will operate upon them which will alienate the idea of motherhood, tend to make them ashamed of showing any interest in it, and "set" them for the collegiate nunnery, spinsterhood, or contraceptive marriage. They will have to be content with as much of "love" as petting gives, not being as strongly sexed as the aforesaid great-great-grandmothers, who would never have tolerated either sterile petting or a spurious motherhood. What a fate! What an age!

The school avers that its program implies no approval of the principle behind State care of infants, that there is no intention that the babies' own mothers should be supplanted in any way (what a rare sense of humor!), and that no one can take the place of a mother in a child's life (sardonic humor?). Each baby is returned to the mother at night. The baby is cared for in this way from the age of one month for a period of two years.

We wish the new experimental system and the girls of the next generation the best of luck. May each one of them, under a better social dispensation, achieve real motherhood unterrified by economic and contraceptive bogies.—Medical Times & L. I. Medical Journal.

The end of home landlordism is the dawn of prosperity and world peace.—Charles F. Gillmann.

Original Articles

MEDICAL SOCIETIES CAN OPERATE THEIR OWN SPECIAL CLINICS

Chas. P. Blair, M. D.,
Secretary, Warren County Medical Society,
MONMOUTH, ILL.

The Warren County Medical Society is a small county organization, with only 25 members, which means in this particular case every practitioner of Medicine in the County. Some years ago, Crippled Childrens' Clinics were conducted in various parts of the State, and we saw a number of our crippled children being transported "semi-occasionally," to the scene of one of these Clinics. The Clinic was conducted by a physician, in cooperation with a representative from a brace making firm, and in many of the cases presented before the Clinic expensive braces and other appliances were ordered, and the follow-up service consisted in an inspection of these appliances, with a possible adjustment at succeeding clinics.

The Medical Society was not in any way either responsible for the Clinics, nor invited to assist in the arrangements, and again, the members who were family physicians of many of these patients, did not receive a report relative to the cases in which they were interested, following the visits of the clinician and brace-maker. This could not be considered an ideal situation either from the standpoint of service, or cooperation. A drive was made in the community for funds to aid in carrying on this work, and a greater part of it was spent for the appliances recommended at the Clinic. When the citizens of the community were made aware of the purpose for which the funds were to be used, namely, to aid the crippled children of the County, no difficulty was met with in obtaining the same. On account of an increasing dissatisfaction in the community, interest in these Clinics gradually waned, and for some time, only such treatment as was asked for by the parents, was given these children who had attended the Children's Clinics.

More than five years ago, the Warren County Medical Society decided that it could and would conduct its own Crippled Children's Clinic, and the matter was taken up with the old committee which was responsible for the earlier drive for funds, and which still had some funds at their disposal. This committee was anxious to aid the Warren County Medical Society in conducting the Society Clinic, and promised financial assistance, for the purpose. Dr. Philip H. Kreuscher was the unanimous choice of the members of the Society to be the clinician, and arrangements were made to hold the first Clinic under his guidance. The results were highly satisfactory. Many crippled children were found throughout the County, who had not previously received treatment, because the parents had not asked for same, of their family physician.

Although much benefit was derived from these early Clinics, the present system was gradually established after the second year. All clinics are held at the Monmouth Hospital. The patients are admitted on regular admission cards at the office, and are given a number, which becomes permanent, the same number being used for that patient at subsequent Clinics. The patients are seen in the order of their admission. One of the operating rooms is used for the Clinic, and all patients are prepared for their presentation by the nurses. A stenographer is on hand, to take all data and suggestions pertaining to the case. The history is taken at the first admission, and this is added to, at subsequent attendances. If x-ray pictures are desired, the patient is sent to the Radiological department, and pictures are taken immediately, and returned to the clinic before the patient leaves. If casts are suggested in any of the cases, these are applied at once in the hospital, by the family physician. All cases of indigents are cared for by the township physician. All records are kept on file in the hospital, in a cumulative form, and the complete record consists of the following:

1. The history of the case.
2. Findings as elicited at the first examination.
3. Suggestions of the clinician, when first seen.
4. All pertinent x-ray or special examination reports, including the necessary films.
5. Subsequent reports from subsequent clinics.
6. Suggestions, or remarks as to progress, made by the clinician from time to time.

The clinical reports from each clinic are typed in triplicate, one copy of each being attached to the individual records and kept on file

at the hospital, one copy given to the family physician of each patient, and the third copy given to the nurses who follow up the cases. This latter is a very important part of the system. Two nurses, one a Community Welfare nurse, and the other the county nurse, receive a copy of each record, and note the recommendations made for the patients by the clinician.

Within a few days following the clinic, the home of each patient is visited by the nurses, to see that the parents understood what the clinician had suggested for the patient, and to be sure that same would be done. Check-ups are also made by these nurses, in calling on the physicians to see if the patients have reported, as requested. Subsequent calls are made by the nurses at regular intervals to note the progress in each case, and see if proper attention has been given to them. If manipulations, or massage have been ordered, in the case of indigents, or those cases where the attending physician asks the nurses to do so, the proper orders are carried out by them.

It was frequently noted, before the adoption of this system, that many times the patients did not see the family physician after the clinic, and they actually received no attention at all between clinics, but now practically every case does receive the attention suggested for them. The results have been highly encouraging, and a number of patients who were first brought to the clinic in the parent's arms, are now walking, either with braces, or in some cases, without any support whatever. Many other cases show a marked improvement from time to time, thoroughly convincing all of those interested, that these clinics are well worth while. The clinic is attended by most of the physicians of the county, and frequently, visitors are present from other counties adjoining Warren county. The newspapers in the vicinity have given excellent cooperation by announcing the clinics in several issues beginning two weeks before the clinic is held, urging all crippled children to come to the clinic with their parents, or guardian, and preferably with their family physician, and in every instance, with the knowledge of the latter.

Occasionally early in the morning of the clinic, one or two patients needing operative care, receive it, and all of the physicians of the community are invited to be present. Several interesting cases have been watched, following this operative attention, one being a case of Little's disease, hopelessly crippled before operation, and now almost entirely normal.

Contrary to the opinion of many who are not familiar with actual facts, the operating expenses of a crippled children's clinic are not at all high, and it is our firm belief that any community in Illinois can easily conduct its own clinic, with the aid of cooperative organizations. There are a number of women's organizations in every community which can sponsor a drive for funds in one of several ways. The local Federation of Women's Clubs, Parent-Teacher's Association, other similar organizations, or some fraternal organization can be of great assistance in this way.

In this community, an annual charity ball has been held to furnish funds for Crippled Children's Clinics. The ladies can hold a bazaar, bridge tournament, can sponsor a home talent show for the purpose, or receive funds through solicitations, as there seemingly cannot be a more worthy cause for the collection of funds in a community, than for the care of crippled children. The physicians all cooperate thoroughly, and this does not in any way interfere with the private practice of any physician in the community. Some patients have been attended at the clinics, who formerly had been receiving treatment from one of several varieties of non-medical practitioners, without results, and who now show a very definite improvement.

Those who have been vitally interested in the results of the Warren County Crippled Children's Clinic are thoroughly convinced that all clinics conducted in a community successfully, must be under the supervision of medically trained individuals, both as to arrangements and operation, and they are also firmly of the opinion that any community regardless of its size can easily finance the clinic with the cooperation of any one of a number of lay organizations ever anxious to do some work of the kind for the interests of the community.

It is our opinion, that when the County Medical Societies are awake to the necessity of wholly medically supervised clinics, and have established them in their respective communities, there will no longer be any incentive for lay organizations operating or controlling such types of health activities in Illinois, and that this will be the best possible arrangement for such activity, that can be made.

SURGICAL LIMITATIONS IN GASTRIC SYPHILIS*

GEORGE DE TARNOWSKY, M. D., F. A. C. S.
CHICAGO

Introduction:

That the subject of gastric syphilis has of recent years assumed increasing importance, is due almost entirely to improvement in roentgenologic interpretation and routine adoption of Wassermann-Kahn tests. In the United States, Eusterman, O'Leary, Singer and Dyas, Singer and Meyer, Le Wald, Warthin, Moore and Aurelius, et al.; in Italy, Bua, Fantino, Girardi, Masucci, Micheli, Pinardi, Sisto, Allodi, Rondelli, Ferranini and d'Andrea; in Germany, Lucia, Aoyama, Schlesinger and Schliffer; in France, Azemar and Lacapere, Beusaude, Chabrol and Moutier; Bell and Tebbitt in Australia, are among the recent authors who have published their observations on a pathological entity which Clifford Albott considered almost a curiosity a few years ago.

Pathologic types of gastric syphilis:

1. Hereditary lues of the stomach in the adult is extremely rare. Lehman reported such a case in a twenty-two year old girl and LeWald had two, a girl of seventeen and a boy of fourteen years of age; both diagnoses were radiologically confirmed.

2. Whether or not syphilis in its secondary stage produces gastric lesions which can be diagnosticated as such, is a mooted question. The gastritides which certain authors would ascribe to secondary lues can, in all probability, be laid to the effect of anti-luetic medication, especially of the oral type. Gastric lues of the ulcerative type, with a symptomatology identical to that of the ordinary peptic ulcer, has been described by Keser, Mamulea, Kemp, Baylac and Chamarron. There has not been offered any anatomic proof of these lesions.

3. The diagnosis of acquired tertiary syphilis of the stomach on the other hand, is now placed on a solid anatomic, morphologic, roentgenologic and clinical foundation. With increasing knowledge concerning these lesions, correct pre-operative diagnoses should be made in a large percentage of gastric disturbances presenting surgical indications, although it is probable that every surgeon will operate on his first case of gastric syphilis with a working diagnosis other than the correct one. In spite of the fairly large number of reported cases of tertiary gastric syphilis, Konjetzny believes that only eight or nine of them can be classed as proven. In his analysis he excludes (a) all cases diagnosed solely on clinical symptomatology, (b) all histologic reports of ambiguous type such as might equally well apply to tuberculosis or chronic inflammations of the gastric wall and (c) all cicatricial cases where tissue examination for signs of the evolution of the process is impossible. Merrill believes that gastric involvement is always a late manifestation of lues.

Case reports:

1. Linitis plastica syphilitica: M. K., male, aged 38, married. Electrician by trade.

Previous history: Gonorrhea 13 years ago. Denies chancre. Hematemesis two years ago while living in Mexico, associated with diarrhea; does not remember having had any bloody stools.

Present complaints: Gastric distress following meals and lasting one hour or more. Frequent attacks of vomiting, but has not noticed any blood in vomitus. Vague, ill defined shooting pains in epigastric region. Complains of insomnia and occasional loss of memory. All of above began insidiously about two years ago.

Personal habits: Patient has led a dissipated life and been a heavy drinker for many years.

Examination, April, 1902: Tall, well-built male who does not appear acutely ill, but seems anxious and apprehensive. Pupils normal; tongue tremulous; head, neck, thorax, negative. No evidence of rapid emaciation present. Abdomen prominent; generalized epigastric tenderness; liver palpable below costal margin. Extremities negative. Reflexes sluggish but present. Examination for signs of tabes were negative but patient has the slow uncertain speech, tremulous tongue and dull, listless facies of a paretic in the melancholiac stage. Patient's wife stated that her husband had on several occasions attempted suicide.

Working diagnosis: Chronic gastritis (sic), incipient general paresis.

The accepted treatment of that period (1902) was instituted, i. e., gastric lavages, mercurials and iodides. The patient showed some improvement until the latter part of June, 1902, when he was suddenly seized with a severe attack of gastric pain accompanied by nausea, vomiting and collapse. This attack lasted three days; no liquids were retained and dehydration became extreme. No palpable mass could be felt in the epigastrium. A tentative diagnosis of pyloric obstruction of unknown origin was made and the patient was operated upon at the Chicago Union Hospital (now Illinois Masonic Hospital), June 23, 1902.

On opening the abdomen through a supra-umbilical

*From the Department of Surgery, University of Illinois, and Ravenswood Hospital, Chicago.

paramedian incision, the stomach appeared atrophic, pale and indurated. Its walls gave one the feeling of parchment. No nodules or ulceration could be seen or palpated. The pylorus was thickened and markedly indurated. There were no peri-gastric adhesions. The liver was slightly enlarged, sclerotic and somewhat paler than normal. No other organs were examined. A Heinecke-Mickulicz pyloroplasty was performed and the abdomen closed without drainage. The patient had a somewhat stormy convalescence but ceased vomiting on the third post-operative day and left the hospital on the seventeenth day. He remained free from gastric symptoms, but developed increasing signs of general paresis. Three months after his operation he was committed to a state asylum where he died three years later. At no time during his committment did he have a return of his tabetic crises; there was no further pylorospasm.

This thirty-year old report is presented in order to bring out the difficulties under which clinicians labored before the advent of Wassermann-Kahn tests and of Roentgenograms. The writer would also submit for consideration the suggestion that the classical gastric crises of tabes may represent cases of gastric syphilis of the linitis plastica or obstructive type. It is to be regretted that Eusterman, in his masterly study of ninety-three cases of gastric syphilis, observed in the Mayo clinic between the years 1908-1930, makes no mention of any neurological examination of these patients. Identical criticism can be applied to O'Leary's observations on one hundred and fifty-one similar cases in the same clinic. Tabetic gastric crises are usually described as sudden attacks of gastric or abdominal pain with retching and vomiting. Each attack may last from a few minutes to a few days and recur in from a week to several months. If vomiting is persistent, emaciation may be rapid. There is usually a lack of hydrochloric acid in the gastric juice, both during the crises and in the intervals. Moore is of the impression that patients with syphilis of the stomach have few other manifestations of syphilis either in the central nervous system or in other parts of the body.

Case No. 53007, Ravenswood Hospital.

Female, 27 years old, married; no children.

Onset of troubles, eight months.

Cardinal symptoms: Vomiting, epigastric pain on eating, nocturnal pain, loss of weight.

Wassermann: 100% positive.

X-ray report (Dr. D. L. Jenkinson): "Marked filling defect involving the cardiac portion and the pars media of the stomach on both curvatures. The pyloric antrum is dilated and regular in outline. The first and second parts of the duodenum were markedly dilated. The stomach emptied rapidly, having the appearance of an achylia. From the x-ray findings I believe this is due to a malignant or syphilitic stomach, with the findings leaning towards a syphilitic stomach. I would like to re-examine this stomach after the patient has been on an anti-luetic treatment." Dr. L. C. French, the attending physician, reports that, under specific treatment, his patient has made a remarkable recovery.

Case No. 56906, Ravenswood Hospital.

Dr. F. J. Buss, attending physician.

Male 48 years old, married.

Onset of trouble: Two years ago.

Cardinal symptoms: Loss of weight, weakness, epigastric pain, diarrhea, epigastric tumor.

Wassermann: Negative.

X-ray report (Dr. D. L. Jenkinson): "There is a marked filling defect of the pars media and pars cardia of both curvatures of the stomach, the filling defect being more marked in the pars media. The stomach is empty at the end of five hours. The distal portion of the transverse colon seems to be pulled in close proximity to the stomach and there seems to be a filling defect in this portion of the colon.

"Summary: Inoperable lesion of the stomach, either carcinoma or syphilis, with strong evidence pointing towards syphilis. Involvement of the distal portion of the transverse colon."

This patient fell in the hands of another physician who promptly operated upon him. Dr. Buss informed the writer that his former patient did not survive the operative ordeal.

Incidence: An estimate of the incidence of gastric syphilis is, at present, very difficult to arrive at. A majority of the recent reports represent isolated cases. From 1908 to 1931 the Mayo clinic collected ninety-one cases; ten cases were recently reported from the Cook County hospital, Chicago. Merrill, discussing Moore and Aurelius's paper, made the statement that, out of 18,000 gastric examinations at the Massachusetts General Hospital, 16 positively syphilitic cases were found. In 300 gastric roentgenograms taken at the Ravenswood hospital since 1930, only two positive cases of syphilis were reported.

Pathology: Fournier's classification, enunciated in 1906, is still the most generally accepted one. Clinically however, one entity may blend into another and combinations of two or even three types may coexist in the same patient. Fournier divided his cases into six types:

1. Circumscribed gummata
2. Diffuse syphilis of the stomach
3. Syphilitic ulcer
4. Stenosing and deforming syphilitic scars
5. Syphilitic linitis plastica
6. Syphilitic gastritis.

1. Characterized by the presence of placques or nodules of varying size, single or multiple. They may occupy any portion of the stomach, may be discrete or confluent, often ulcerate and

tend eventually towards invasion of all of the gastric layers. The sub-mucosa is principally involved; the serosa becomes cicatricial in appearance.

2. Usually found in the pyloric region; tends to bring about a stenosis of the pylorus and may extend to the duodenum. The lesions are fibro-gummatous and are characteristic of the active stage of tertiary syphilis.

3. May be single or multiple. They represent late changes of gummata of the stomach wall. If single, it is apt to be diagnosed as a simple gastric ulcer.

4. Pyloric stenosis and hour-glass stomach represent the common stenosing and deforming types of late gastric syphilis.

5. Pathologists do not all accept this morbid entity; some look upon linitis plastica as always of cancerous nature, others recognize a syphilitic type. Feser examined fourteen cases and concluded that eleven of them were syphilitic and not cancerous. It is also called:

Stenotic hypertrophic gastritis (Boas)

Fibrous disease of the pylorus (Habershon)

Stenotic hypertrophy of the pylorus (Tilger)

Extensive sclerosis of pyloric region (Oettinger)

It is believed to be the end-stage of diffuse interstitial syphilitic fibrosis (Singer), or the manifestation of a small-cell carcinoma of the stomach (Lyons). Linitis plastica syphilitica may only involve the pylorus but, more often, it involves a major portion of the stomach. The walls feel like parchment, the blood-supply is markedly diminished, elasticity is absent and surgical intervention presents serious difficulties owing to the marked difference between the stomach wall and that of the duodenum or jejunum.

6. This rather rare type is characterized by diffuse hyperemia with leucocytic infiltration of the mucosa and sub-mucosa. Biopsy alone will enable the surgeon to make a true diagnosis of this lesion. The finding of numerous round cells, of miliary gummata and of other luetic lesions in other organs are necessary for proper orientation.

In spite of careful clinical studies and accurate pathological diagnoses, the French school warns us that "one must not expect to find clinical symptoms pathognomonic of gastric lues unless one wishes to be condemned not to diagnose it and only to recognize it at autopsy or from a biopsy." Bell and Tebbett likewise state that "no purely clinical observation can be regarded as conclusive evidence that a gastric lesion is syphilitic."

The essential characteristics of gastric syphilis can be summed up as follows:

1. Primary involvement of the sub-mucosa.
2. Presence of typical miliary gummata.
3. Diversity of certain elements such as epithelioid and giant cells (which may also be found in other lesions such as tuberculosis).
4. Coexistence of other manifestly specific lesions such as hepatic gummata, etc.
5. Characteristic vascular lesions of endarteritis obliterans.

A cellular infiltration of the gastric submucosa, gradually extending towards the serosa; a later invasion of blood-vessels which become obliterated and produce ulcerations of the mucosa and a final stage of cicatrization of the gastric wall, represent the usual progress of gastric lues.

Pyloric stenosis is unusual; the emptying time is rather shortened than otherwise. According to Moore and Aurelius, in 70% of all cases the pre-pylorus is involved, giving a concentric, rather symmetrical defect which extends upwards a variable extent; 22% are of the hour-glass type and only 8% show a diffuse involvement.

Diagnosis: A diagnosis of syphilis of the stomach necessitates the close cooperation of serologist, roentgenologist and clinician. In a majority of cases the extent of the lesion, as interpreted by the *x*-ray, will orient the clinician; the Wassermann-Kahn and subsequent therapeutic test will confirm the diagnosis. One should not however forget that syphilis and cancer may coexist in the same patient's stomach, that anti-luetic treatment may cause a temporary and utterly fictitious improvement, where gastric cancer alone exists and, finally, that in the stenotic type of gastric syphilis surgical intervention alone will relieve the patient.

Gastric syphilis is twice as common in the male as in the female: so is gastric cancer. The age incidence is important—third to fifth decades in 88% of Eusterman's cases—but that is also true of the peptic ulcer age. Syphilis has long been classed as a great imitator of other diseases; Eusterman classes 23% of his cases as of the ulcer type and 15% as of the pseudo-cancer type.

Sudden attacks of severe epigastric pain with nausea and vomiting may strongly suggest perforation of a peptic ulcer, but shock is absent and the presence of air between the diaphragm and stomach, revealed under the fluoroscope, will clear the diagnosis. Biliary tract disease should not offer any serious difficulty if the sypmtoms and course of the trouble are carefully analysed.

According to LeWald, the diminished acidity of the gastric content and absence of free hydrochloric acid is explained in some cases by the rapid emptying of the stomach, and in others by the involvement of the acid producing portion of the stomach.

So all important is the roentgenological interpretation of these rare cases, that it is believed best to quote in full Moore and Aurelius's attempt at classification of gastric syphilis under six headings:

1. Concentric, symmetrical filling defect, affecting both curvatures equally and narrowing the gastric lumen. Almost constantly, the narrowed channel takes a straight or direct course, is never really tortuous and is relatively smooth, although there may be a few marginal irregularities, or one or two projecting pockets of some size.

2. In the area of the deformity, the rugae are obliterated and the gastric wall is less pliable under the palpating finger. Everywhere the margins of the barium shadow are clear-cut and distinct; the whole shadow is of good density yet appears flat and lifeless.

3. In by far the greater number of cases, almost three-fourths of them, the stenosis adjoins the pylorus, from which it extends proximally in varying degrees, but seldom into the cardiac third of the stomach. The barium shadow of the narrowed lumen may have a sharply spicular form with its point towards the pylorus, or it may be regularly cylindrical.

4. In twenty-five per cent. of cases the stomach is of the dumb-bell type, in which the constriction is centrally located, the pyloric and cardiac ends remaining free. Although variable as to width and length, the contracted canal is most often quite long.

5. In a third type or one-tenth of all cases, virtually the entire stomach is affected. The viscus is converted into a narrow, rather smooth tube, the width of which varies among individual cases. Although the cardiac end is involved, it continues to be more or less distensible. There is little or no longitudinal contraction, with shortening of the stomach. The whole picture is practically diagnostic of syphilis.

6. Sluggish peristalsis of the uninvolved portion of the stomach and lack of peristalsis in the affected area are common to all types. Residues from the six-hour meal and gastric dilatation above the stenosis are rare. Mobility of the stomach is maintained. Shortening of the stomach rarely occurs; occasionally, as a result of gastric stenosis, the esophagus is dilated, but it is not invaded by extension of the disease. A striking feature is the absence of a palpable mass corresponding to its defect.

Symptoms: Epigastric pain, often of the cutting or gnawing type and apt to be worse during the night, is the one outstanding symptom reported by most observers. This pain may be relieved by alkalies but not by food; in fact the ingestion of food increases the pain and these patients endure semi-starvation which, alone, accounts for the loss of weight. The latter may be extreme, yet the patient is not severely ill and shows little or none of the cachexia so characteristic of gastric cancer. As Moore states: "the patient does not appear to be so ill as would be the case with an equal gastric involvement due to carcinoma of the stomach." Hematemesis and melena are rare. The appetite usually persists. Relief from pain is often obtained through provoking vomiting. Pain is of the splanchnic type and does not present the radiation of biliary tract disease. There is usually a long history of gastric complaint. Palpation only occasionally reveals a soft, rather boggy mass in the epigastric region. Tenderness, though present, is not marked. With the present-day routine laboratory examinations, a positive Wassermann-Kahn should at once arouse the clinician's suspicion.

The writer has found it useful to divide the findings in a suspected case of gastric syphilis into negative and positive or suggestive ones.

Negative findings:

No hematemesis
No melena
No cachexia
No tumor in 80% of cases
No six-hour gastric residue
No hunger pain of ulcer (as a rule)

Suggestive findings:

Absence of or decreased free HCL

Epigastric pain immediately after meals (this may be relieved by alkalies. Eusterman however, found the pain-food-ease syndrome of ulcer present in 23% of his cases).

Vomiting, spontaneous or induced

Gastric filling defect "a smooth, slightly pliable deformity, most frequently situated towards the pyloric end and sometimes appearing in the form of an hour-glass, or occasionally as a diffuse involvement of the entire stomach" (O'Leary).

Put tersely, gastralgia+Achlorhydria+starvation+disproportionate x-ray findings to clinical picture + positive Wassermann-Kahn = Gastric syphilis.

Treatment: The sole operative indication in gastric syphilis is obstruction. In the absence of urgent indications i. e. intractable vomiting, rapidly progressive starvation, etc., anti-luetic treatment should be given a thorough trial. Details of therapy are purposely omitted: they do not properly belong in a paper stressing the surgical aspect alone.

It is well to remember that the clinical improvement may be out of all proportion to the anatomic improvement. This was especially true of Dr. French's case, above referred to. While the patient's return to good health was almost dramatic, subsequent roentgenograms showed a peristence of the limits plastica. Fibrosis of the sub-mucosa is, of course, responsible for the non-return to normal of the gastric picture.

Eusterman warns us that the number of gastric resections performed on luetic stomachs will be in inverse proportion to the diagnostic acumen and therapeutic resources of the surgeon. He also believes that surgical interference in strongly suspected cases of gastric syphilis is unjustifiable, even in the presence of consistent retention of gastric content. We cannot agree to this extreme view and firmly believe that any case not responding fairly promptly to anti-luetic treatment and giving clinical signs of pyloric obstruction, should be operated upon. We also believe that the only two justifiable procedures are pyloroplasty or posterior gastro-enterostomy. Resections represent errors in diagnosis or in surgical judgment.

Summary: 1. Three cases of gastric syphilis are reported.

2. With routine Wassermann-Kahn tests and proper roentgenographic interpretation, the diagnosis should not be difficult.

3. A marked disproportion between the extent of the pathological picture, as interpretated by the roentgenogram, and lack of cachexia with loss of weight, are almost pathognomonic.

4. Anti-luetic treatment should be given a trial in all cases and persisted in as long as clinical improvement is manifest.

5. Pyloric obstruction constitutes the sole indication for operative interference; posterior gastro-enterostomy and, exceptionally, pyloroplasty are the only justifiable procedures.

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PROCTOLOGY—CLINICAL SUMMARY OF 4,016 PROCTOSCOPIC EXAMINATIONS

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I know of no better way of introducing this paper than to repeat the statement of Bloodgood, "In my opinion every person over forty should be proctoscoped at least once every decade." My apology is that I haven't been able in the past to convince all my clients of the impor-

tance of this examination as a preventative measure. For some unforeseen reason the terminal portion of the gastro-intestinal tract is the most neglected portion of the human anatomy. Yet the patient is not wholly to blame, I believe it is the physician who fails each and every time to stress the importance of a rectal examination in routine work. It is especially important to make rectal examinations when early symptoms appear because it is then only that most may be accomplished for the patient. The one feature that I wish to stress most is that a large percentage of cases presented at this time, are cases with organic lesions that have been discovered in the course of routine proctoscopic examinations, at times much against the consent of the patients. I am frank to say that I am primarily interested in writing this paper for the benefit of the younger men in practice in order to point out the real value of doing rectal examinations and proctoscopic examinations as often as possible in the early stage of their game, with the hope that this habit may be cultivated. One case of carcinoma of the rectum or colon discovered early in its progress would compensate for hundreds of cases that you may find negative on routine examinations, if you make that a daily habit.

It is needless to more than mention in passing that proper facilities and instruments are necessary. Most instruments on the market are standardized to fullest measure and my personal experience leads me to believe that all of the instruments made have one or two superlative features, and once having chosen your preference, it is, of course, advisable to continue to work with the same instrument in order to get perfection in technic and save time.

Posture. Now as to posture of patient for examinations—proctoscopy may be done in the following positions: (No anesthesia used.)

a. Knee-chest

b. Lateral semiprone

c. Elbow-knee

In my experience the Knee-chest position is the position of choice.

Preparation. In the preparation of the patient we have adopted the following routine:

1. Patient is kept on clear liquid diet for thirty-six hours.

2. One soap suds enema (warm) is given the night before the proctoscopic and another enema is given the morning of the examination.

3. Breakfast is withheld.

Another rule that I feel should be thought of as routine is informing the patient of each step in detail throughout the entire procedure. I can assure you, and you can verify this statement to your own satisfaction, that it is much more than a pleasant surprise to have a protoscope introduced into the rectum when the nature of such an experience is unknown.

Lubricant. Liquid Petrolatum is used.

Instrumentation. Because the normal course of the colon varies considerably it is difficult to outline this procedure accurately in a descriptive manner. A few general statements may be made. In the primary maneuver (Knee-chest position) the instrument is first passed inwardly and downward after the anal region has been passed, then in the second maneuver the instrument is directed upwardly and to the right and in the third maneuver the instrument is directed slightly downward and to the left. Any or all of the three essential maneuvers may vary considerably and therefore unusual manipulation may be necessary. It is, of course, important to remember to remove the obturator just as soon as the proctoscope has passed the anus.

Inflation. I fail to understand the necessity of using the pneumatic tube for inflating the bowel during proctoscopy examination. To my way of thinking the examination is for the purpose of obtaining information within the colon as it exists under ordinary conditions. Introducing inflation alters conditions by distending the colon, changing its position, etc., and for that reason I do not use the pneumatic tube. One other point may be brought out and that is that every so often perforation of the colon is reported apparently from overinflation or sudden release of increased intra-colonic pressure.

It, therefore, seems that the sensible thing to do is not to introduce any more air into the colon than is already present. It is very important that you understand before attempting a proctoscopic courier, that you must learn to control your temper inasmuch as the patient may get very angry if he or she is hurt by awkward or irregular maneuvers.

I have attempted in a brief way to group and classify all cases that I have had in my experience up to 1932. I have proctoscoped 4,016 cases up to February 1, 1932, and have found it convenient to classify the cases into three groups —Table 1 (Rectal Cases), Table 2 (Colon Cases), and Table 3 (Miscellaneous Cases). In the discussion of these tables I will refer only to a select group.

In Table 1 the group of cases that seem most interesting to me is the enormously large numbers of Primary and Secondary G. C. rectums. The primary lesions are, of course, unavoidably primary—the secondary lesions to my knowledge may be avoided to a large extent if the patients are instructed properly as to the care of the genitalia. Another group of cases that should be referred to is eighty-five cases of rectal carcinoma. The most interesting point that is brought out in the history of these cases is the long duration of one inconstant symptom of bleeding. With no exception the proctoscopic examination suggested at our office or clinic was invariably the first visual rectal examination suggested to the patient; here again the patient is not at fault. These cases presented the symptom of bleeding for periods varying from six weeks to sixteen years, and were repeatedly diagnosed as hemorrhoids without ever visualizing the rectum. Loss of weight in these cases is comparatively a late symptom.

For the benefit of those who do not know the facts about hemorrhoids I want to say that internal hemorrhoids may be treated either surgically or by injections, while external hemorrhoids are treated surgically only. External hemorrhoids are not amendable to injection treatment.

TABLE 1. PROCTOLOGY

CLINICAL SUMMARY OF 4,016 PROCTOSCOPIC EXAMINATIONS—RECTAL CASES

No. of cases exam.	Proctoscopic Diagnosis	Treatment Suggested	Complications Noted	Origin of Cases: Research Hosp.	Grant Hosp.	Office	Other Hosp.
706	Normal	No	None	518	78	82	28
182	Infective Proctitis	Low residue diet Sitz bath Zinc oxide ung.	Ulceration, stricture	144	24	12	2
P. 17	G. C. Rectum	Agno 3	Stenosis	12	1	2	2
S. 31		Trich. Acet. acid		26	0	3	2
20	Lues Rectum	Antiluetic surgery	Stricture	18	0	2	0
36	Rectal abscess	Surgery	Ruptured Bet. sph.	28	5	2	1
101	Rectal fissure	Agno 3 Surgery and dil. of sphincter	No	72	19	8	2
46	Rectal fistula	Surgery	Sec. tracks formed	32	8	6	0
112	Rectal stricture Postoperative	Pratt method dil. low residue diet	Constipation	89	6	15	2
85	Rectal carcinoma	Resection colostomy	Extension to pelvic organs	64	13	8	0
174	Pruritus ani	Treat underlying cause	No	161	4	8	1
I. 493	Hemorrhoids	Internal	Localized	459	15	18	1
I. 105		(operated) (injected)	phlebitis	64	1	39	1
E. 230		External operated	Hemorrhage	192	19	18	1
41	Rectal prolapse	Underlying cause or surgery	Slough, perforative peritonitis	28	5	6	2

In Table 2 I wish to call your attention especially to the group of cases of chronic ulcerative colitis. We have been getting very encouraging results with a suitable diet and vaccine treatment. (Illinos Medical Journal, November, 1931, and *Jour. A. M. A.*, January, 1930.) It is interesting to note that parasitic colitis is apparently on the decrease, this I believe is due to the fact that the public in general has a much better understanding of food hygiene and are taking proper precautions in the preparations and distribution of foods.

TABLE 2. PROCTOLOGY

Clinical Summary of 4,016 Proctoscopic Examinations—Colon Cases

No. of cases exam.	Proctoscopic Diagnosis	Treatment Suggested	Complications Noted	Origin of Cases			
				Research Hosp.	Grant Hosp	Office	Other Hosp.
606	Non-spec. colitis diarrhea	Diet medication	No	554	2	42	8
53	Parasitic colitis	Diet-autogenous vaccine and specific Treatment	Ulceration stricture	38	3	12	0
172	Chronic ulcerative colitis	Diet autogenous polyvalent vaccine	Perforation Hemorrhage Polyposis stricture	135	10	22	5
136	Mucous colitis	Diet, vaccine appendectomy (later)	No	119	2	11	4
70	T. B. Colon	Sanatorium Vaccine colostomy	Abscess Fistula obstruction	49	6	12	3
52	Polyposis	Surgical if obstruction	Bleeding obstruction	38	1	11	2
55	Carcinoma sigmoid	Colostomy	Obstruction	43	1	8	3
81	Anomalous colon	Abdominal belt—diet	Obstruction	69	1	9	2
230	Adhesions (intestinal)	Diet—antispasmodics	Internal hernia	204	6	16	4
111	Ptosis (colon, etc.)	Diet abdominal support	Constipation	94	0	12	5
5	Acute ulcerative colitis	Treat underlying cause	Bleeding	4	0	1	0

TABLE 3. PROCTOLOGY

Clinical Summary of 4,016 Proctoscopic Examinations—Miscellaneous Cases

No. of cases exam.	Proctoscopic Diagnosis	Treatment Suggested	Complications Noted	Origin of Cases			
				Research Hosp.	Grant Hosp	Office	Other Hosp.
3	Hirschprungs	Diet, acidophilous milk, surgery	Obstruction	3	0	0	0
19	Pernicious anemia	Standard treatment	No	15	1	3	0
5	Uremic colitis	Treat uremia	Ulceration	4	0	1	0
8	Diabetes	Standard treatment	No	6	0	2	0
4	Purpura Hemorrhagica	Standard treatment	Hemorrhage	3	0	1	0
6	Fecal impaction	Fluids, anti-spasmodics, purgatives	Obstruction	4	1	1	0
1	Congenital stenosis	Routine dil. with Bougie, surgery	No	1	0	0	0
13	Prostatic tumor	Surgery	Ulceration into rectum	9	1	3	0
4	Keloid of rectum	Surgery	No	3	1	0	0
1	Cyst (mucous) colon	Surgery	No	1	0	0	0
1	Cyst (glandular) colon	Resection	No	1	0	0	0
1	Henoch's purpura (colon)	Treat underlying cause	Hemorrhage	1	0	0	0

The group of cases of anomalous colon has always been of keen concern to most physicians because so very little is accomplished in the treatment of these cases. When the anomaly occurs in the sigmoid or lower colon, on proctoscopic examination one encounters an obstruction in the mucosa a very short distance from the external sphincter as though the bowel terminates blindly. In these cases only the first maneuver is accomplished freely while the second maneuver is practically impossible because of the sharp angulation encountered. Undue force if put on at this level very often causes considerable bleeding and at times perforation.

In Table 3 the group of three cases of Hirschprung's disease deserves mention in that although these cases occur almost invariably in the young individuals, the proctoscopic view resembles the colon of pernicious anemia almost to identity.

In 1928 I published an article in the Archives of Internal Medicine, Vol. 42, p. 835, on Experimental Anemia-Uremic Enteritis. Our conclusion at that time in experiments on dogs was that marked uremic enteritis and colitis may be produced in absence of any kidney pathology; this it also correlated in the five cases reported in Table 3.

The four cases of keloid of rectum are, of course, cases limited to one race, and are subsequent to hemorrhoidectomies. It is surprising to me that more cases of this type are not observed. I am referring to the difference of reaction of the skin after surgery in the rectum as compared to frequency of occurrence of keloids after abdominal incisions.

Conclusion. I have tried in brief to enumerate the cases observed and to point out a few essentials as I believe they should appear to the younger men interested in gastroenterology and proctology.

Once again, I attempted to stress the importance of forming a habit to do rectal examinations and proctoscopic examinations routinely and to point out the benefits derived from routine examinations.

307 No. Michigan Blvd.

CHRONIC NON-TUBERCULOUS DISEASES OF THE LUNG, WITH A REPORT OF A CASE OF FUNGOUS INFECTION OF THE LUNG, PROBABLY THE SPOROTHRICUM SCHENKII*

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The following case is deemed worthy of report for two reasons. First, the disease is probably an extremely rare one; second, the case emphasizes the remarkably prompt response to treatment with potassium iodide shown by most of the fungous infections.

The patient is a male, white, aged 43 years. Occupation, moulder.

Complaint—Pain in side, fever.

The family history is negative.

Past history: Measles and scarlet fever when a child. Uneventful recovery from both, General health has always been very good.

Present illness: One month ago had an attack of what he thought was influenza. He had a rather high fever, cough, and general indisposition for about five days and then began to recover. No physician was called at this time, so his real condition was not ascertained.

He did not recover as fast as he should. In fact, when seen he stated he had not felt well since his attack of "flu" one month ago. His complaint was fever and pain in right chest and back. At times this pain would be sharp and stabbing.

Examination: Patient is a moderately well nourished man slightly flushed, respiration 27 per minute at time of examination. Pulse is 98 per minute.

Eyes, ears, nose and throat are negative on examination. Chest. Inspection: Breathing is costal in character, lagging on right side. Litten's sign absent on right side, but present on left side. Palpation revealed diminished vocal fremitus on right side at base, in axilla and back; normal on left side.

Percussion: Impaired percussion note over whole lower chest in front and back, extending to level of fifth rib in front and in back almost to level of spine of scapula.

*Address before the Winnebago County Medical Society, February 19, 1932.

Auscultation: Numerous fine and coarse rales present over area of impaired percussion.

Heart is in normal position, and no murmurs heard; rate 98 per minute. A physical examination including the abdomen, lymphatic system, and limbs and joints, genito-urinary system, skin and reflexes was negative.

The x-ray examination was made by Dr. H. W. Ackemann. "Examination of the chest reveals the heart shadow in good position and within normal limits. The left lung field is clear from apex to base and the hilus is negative. The right costo phrenic angle is obliterated. The entire right side is inclined to be opaque but not the type of a picture we find in cases of effusion or empyema. The density is inclined to be mottled and the greatest opacity is found in the sixth, seventh and eighth interspaces and extends from the hilus to the periphery. We frequently see this type of a density in pneumonia and lung abscess and it strikes me that the findings are due to some condition which has produced an indurated lung plus some pleural thickening. It is not a picture of tuberculosis or of lung neoplasm from radiographic standpoint."

The following laboratory examinations were made by Dr. Henrietta Calhoun, pathologist of the Rockford Hospital. Urinary examination, negative. The white count was 12,000.

Blood Wassermann test negative with both alcoholic and cholesterinized antigens.

Repeated examinations of the sputum, which was of a thick creamy mucopurulent consistency, with and without anti-formin were negative for B. of tuberculosis, but a peculiar mycelium was found constantly present.

Dr. Calhoun kindly offered to endeavor to determine the type of fungous present. After repeated microscopic examinations and after studying cultures made in glucose agar Dr. Calhoun decided that the fungus belonged to the sporothrix group and corresponded to the type described by Schenck in 1898.

In the meanwhile the patient had been placed on potassium iodide. The result was a prompt disappearance of the fungus from the sputum. The cough lessened considerably and likewise the amount of sputum. After the fifth day in the hospital, it was at times difficult to obtain sputum specimens for the laboratory. Further study of the fungus would have been of interest especially as it shows pleomorphic characteristics. The identity of de Beurman's sporothrix with that of Schenck's is a debated question.

Radiographic examination of the chest a few months later revealed the right lung area clear except for a slight obliteration of the costophrenic angle.

In arriving at the above diagnosis, it is perfectly evident that every possible effort be used to rule out of consideration as a causative agent of the disease the ubiquitous bacillus of tuberculosis. Repeated unsuccessful examinations of the sputum were made and the patient is in good health today, more than four years after the illness, so it is possible to state with reasonable certainty that pulmonary tuberculosis can be excluded.

The same holds true for pulmonary syphilis. A negative blood Wassermann and a negative history was against this diagnosis, besides the clinical aspect was not typical of pulmonary syphilis, the latter being usually more chronic in its course.

Tumors as cancer, endothelioma and sarcoma were ruled out by history, general examination and by x-ray examinations. The same holds true for the different types of cysts that occasionally occur in the lungs as dermoid and echinococcus cysts.

Another rare condition that has to be considered due to the heterogeneous nature of our population is pulmonary distomatosis, a few cases of which have been reported in this country.

Elimination of the above narrows the list of possibilities down to chronic bronchitis, unresolved pneumonia, empyema, bronchiectasis, lung abscess, fuso-spirochaetal infection, pneumonoconiosis due to the nature of his work, and the several types of fungus infections.

Chronic bronchitis per se is not common; it is more frequently a manifestation of a disease outside the bronchial tree. Dusty trades and the inhalation of smoke and gases are recognized as a cause of primary chronic bronchitis, causing pathological changes in the bronchial mucosa, leading to loss of elasticity and finally secondary infection. The patient's trade might be considered a cause but in view of the extensive in-

volvement of the lung and the x-ray examination primary chronic bronchitis was ruled out.

Secondary chronic bronchitis is a frequent result of cardio-renal involvement. The most typical cases are seen in those with winter cough where contracted peripheral vessels and stagnation of blood in the lungs due to the enfeebled heart action are the causative factors.

Other causes of secondary chronic bronchitis are infections as measles, whooping cough, influenza, pneumonia, typhoid fever, scarlet fever, malaria, and focal infections. The patient had what he believed was influenza a month previously, this has to be considered as a causative factor, but in view of the findings can be ruled out of consideration except as an agent possibly causing lowered resistance both general and local in the lung, in this way favoring infection with a secondary invader. Other rarer causes of chronic bronchitis as thyroid disease, protein intoxication, gout, and chronic alcoholism can be excluded.

Unresolved pneumonia and empyema can be excluded by the clinical history, general examination and x-ray findings; likewise bronchiectasis and lung abscess. In this connection the value of lipiodol in demonstrating bronchiectasis should be mentioned. It is also of value in differentiating between bronchiectasis and lung abscess as in the latter the abscess cavity does not fill.

Pneumonoconiosis. This condition can also be eliminated by the history, general findings and x-ray. There was evidence of moderate amount of dust in the lungs but scarcely enough to cause the symptoms complained of. Gye and Kettle believe that crystalline silica produces its ill effects by a slow chemical change to an occult probably colloidal form. Avascular areas in the silicotic lung offer a favorable place for pathogenic organisms to grow. In this way the moderate amount of pneumonoconiosis present may have been an agent favoring the growth of the fungus in the lung.

Mavrogordato mentions an interesting fact, namely that coal dust can stimulate an outward migration of dust laden phagocytic cells. The relative immunity of colliers to pulmonary tuberculosis may be explained on this basis. However, there is also a theory that the active principle of tuberculin is absorbed by coal dust.

Another point to be remembered is that when tuberculosis develops in a case of pneumonoconiosis, especially in silicosis, it is very likely to develop in the base of the lungs.

Infection with fuso-spirochaetal organisms is not infrequent. The following disease processes are now looked upon as being in many instances the result of infection with this one group of organisms, namely the fuso-spirochaetal organisms. 1. Pulmonary gangrene: 2. Pulmonary abscess both spontaneous and postoperative. 3. Certain types of unresolved pneumonia. 4. Bloody bronchitis. 5. Putrid bronchitis. 6. Primary bronchiectasis. Smith found that the following anaerobic microorganisms were most frequently met with under the above mentioned condition, spirochaetae as T. microdentium, T. macrodentium; S. Vincenti, S. bronchialis; and fusiform bacilli, vibrios and certain cocci. These organisms were found in the gums of patients, in the washed pulmonary sputum, and in the pulmonary tissue at necropsy. Mason has described a case in this country of pulmonary infection with S. bronchialis of Castallani.

Pulmonary Mycoses. Several different kinds of fungi have been found capable of causing pulmonary disease in man. Some of these show a predilection for the skin involving the lungs secondarily. Castellani's classification of the bronochomycoses is the one now usually followed. 1. Those due to yeast-like fungi, namely fungi of the type blastomyces, cryptococus, saccharomyces, monilia, endomyces, williassis. Here belongs also coccidioides immitis the cause of coccidioidal granuloma or the San Joaquin Valley disease. 2. Those due to filimentous fungi. (a) of the slender type, namely fungi as nocardia, anaeromyces, vibriothrix. (b) of the larger type as oidium, hemispora, (c) with characteristic conidial structures and fructifications as aspergillus, penicillium, mucor, rhizomucor, acremonillia.

It is impossible to distinguish clinically between these different kinds of infections; the microscope, culture tube and at times animal inoculation are necessary to make the diagnosis, but certain symptoms are common to all bronchomycoses. In mild cases there is a slight bronchitis with mucopurulent expectoration in which the fungus is found. An example of this is tea-

tasters cough, or tea factory cough, due to moniliasis according to Castallani.

In severe cases symptoms suggesting phthisis with hectic fever and hemorrhagic expectoration are present. The therapeutic diagnosis is also of importance as most bronchomycoses are benefited by the administration of potassium iodide. Immunity and complement fixation tests may be of value in sporothrix and streptothrix infections and for sporothrix intracutaneous hypersensitiveness tests. These tests, however, were not made on the case reported. In view of the microscopic findings the first group of yeast-like fungi can be eliminated and the second group of filamentous fungi will be considered more in detail.

The presence of fungus in the sputum does not necessarily mean that it is the causative agent of the pulmonary disorder present. The fungus may be from the teeth, mouth, and upper respiratory tract. For this reason it is important to collect the sputum after first thoroughly cleansing the mouth and teeth and then rinsing with sterile distilled water. There are according to Hamman three possibilities. 1. The fungus may be present in the secretion as a saprophyte and have nothing to do with the lung lesion. 2. The fungus may have entered the lung as a secondary invader but having gained a foothold, it may mingle with the previously existing disease and cause important and profound alterations in the course of events. 3. The fungus may be the primary and the sole infecting agent in the disease.

In the case in question the fungus persisted in the sputum until potassium iodide was given and no other causative agent could be found.

Pathology. As far as the microscopic pathology is concerned the filamentous fungi produce identical lesions, the cellular reaction to infection with the different types of filamentous fungi is essentially the same. They are all of the type of granulomata. In a given case the fungus must first be identified in order to make a diagnosis. Forbus, in a paper published in the *American Review of Tuberculosis,* November, 1927, describes the gross and microscopic changes very thoroughly. He describes three different types of pulmonary lesions found in sporothrix infection. 1. Tubercle formation, 2. Cavity formation, 3. Sclerosis. He mentions that tubercle formation and sclerosis appear to be two successive steps in the progress of the alteration of the lung tissue.

The tubercle is a limited nodular formation arising apparently in the alveolar wall and intimately associated with the blood vessels; it is often in its earliest form found in the wall of arterioles. They vary in size from that of a whole microscopic high-power field to that permitting three or four to be seen in a high-powered field. Conglomerate tubercles may be macroscopic in size. The inner structure of the tubercle differs from the tubercle of tuberculosis in that it has a very definite reticular structure and the spaces between the fine reticular septa are filled with huge mononuclear cells, all of which are phagocytic. These cells vary greatly in size and shape; usually they are more or less polygonal but may present any form. The nucleus is usually poor in chromatin and is comparatively clear. The typical nodule then is usually composed of a collection of these large cells in a reticulum. The less typical formation contains scattered lymphocytes of plasma cells and not uncommonly eosinophilic leucocytes. Giant cells are at times seen, which appear to be formed by fusion of several of the large mononuclear phagocytes; these giant cells do not occupy the constant position they do in true tubercle.

The central part of the nodule practically never shows any giant cells. In some nodules one finds an accumulation of red cells and fibrin mixed with large phagocytic cells. Blood vessels are also found within the nodule which is almost unheard of in the true tubercle. They vary from arterial to capillary size and are never thrombosed. These nodules are best seen without the indurated areas and instead of becoming necrotic they become hyalinized appearing as a dense hyalin scar.

Grossly the most impressive lesion in the lungs is the induration, the result of scar formation. Sections through this part of the lung show extreme hyalinized scar tissue with accumulations of coal pigment here and there. Epithelioid cells are occasionally seen. Large areas are devoid of blood vessels and cells of any kind. At times a few areas of calcification are seen. Necrosis may be seen in the less dense portions where wandering cells are found. At the margin of the scar tissue epithelioid cells are found in large numbers, many beginning to show hyalin-

ization. The hyalinization of the tubercles already mentioned no doubt aids in the formation of the large indurated scars.

The preexisting bronchi appear as small honeycomb-like cavities almost wholly within the scar tissue. These bronchi have given away as a result of the destructive action of the microorganism, as scattered remains of bronchial cartilage, epithelium, and muscle can be seen in the cavity walls. Isolated remains of mucous glands may also be seen. These cavities are quite unlike the common tuberculous excavations of the lung.

Sections stained with hemotoxylin and eosin, Gram's stain, carbolfuchsin, orange G. and the Goodpasture MacCallum stains, reveal the organism within the cavities, and lying on the surface of the walls, they were also found in large numbers deeply embedded in the hyalin scar tissue showing actual invasion. Both spore and mycelial forms were found, with the mycelial forms predominating.

Sporotrichosis is a disease usually localized to the tissues, spreading along the lymphatic channels; but also may take on the character of a septicemia; the former is the most common condition. Widal, Weill, and Gaucher found the organism in the blood. These workers, in addition, showed that antibodies in form of agglutinins are present in all cases. The complement fixation test also may be present in all cases. The complement fixation test also may be present. A point of interest is that the spores only develop and germinate in animals, and it has been suggested that the fungus may grow on the barberry bush.

In conclusion it should be emphasized that the physician should not wait for an autopsy to make a diagnosis of bronchomycotic infection of the lung, when there is presumptive evidence that a fungus is the cause of the pulmonary disorder present. By a careful process of elimination, using the accepted methods of diagnosis, the physician may be rewarded for his efforts by finding that a puzzling pulmonary case is one of bronchomycosis, and the patient may benefit by appropriate treatment. Potassium iodide, copper sulphate, thymol, oil of cloves, cinnamon and x-rays have all been recommended as effective in treatment. Intravenous injection of various dyes, especially gentian violet is also favorably spoken of. In the cases reported potassium iodide acted very promptly in promoting the recovery of the patient.

Summary: 1. Infection of the lungs with the different types of fungi is more common than generally supposed. 2. Infection of the lung with the specific type of fungus, the sporothrichum Schenckii is extremely rare. 3. The pathological changes in the lung produced by all these different types of filamentous fungi are of the nature of granulomatous changes. The pathological changes are not characteristic of any particular type of fungus. 4. To make a definite diagnosis of the infective agent in these cases, it is necessary to study the microscopic and cultural characteristics of the fungus: and at times also the action on animals. In a case of pulmonary disease of undetermined etiology, and after repeated search for B. of tuberculosis in the sputum; examine for the presence of a fungus. If found it may solve the diagnosis, and the patient may benefit by appropriate treatment.

THE DOCTOR LOOKS AT BUSINESS

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For a decade and more the successful industrialist has cast about for more worlds to conquer. He has suggested that business men supplant statesmen; that salesmen replace congressmen. When on the crest of the recent tidal wave of prosperity, he imagined that he could see a wider horizon than the professional man, he has developed the "Jehovah complex." His critical eye did not fail to light upon our profession. He has "looked at medicine." He has scrutinized hospital management, and the organization and economics of medical practice have received his special attention. He has even tentatively experimented in the practice of medicine, which experiment Dr. Morris Fishbein has referred to as "tinkering with the robots."

Henry Ford, in the period from 1910 to 1915, was so frequently importuned to give financial aid in the alleviation of the perennial deficit of Detroit hospitals, that he finally consented to focus a few rays of his intellect on the problem of reduction of hospital costs and waste a few moments of his time in adjusting their chronic economic difficulties. He straightway proposed to found a clinic where superior service should

be obtainable in a hospital at the same time self-supporting and not a financial burden to the community. Sociological investigators and professional reformers have had little publicity to broadcast concerning the financial status of his hospital, however, as it has always been "in the red." Ford's method of approach to this problem of medical economic reform, however, is of interest to us. It is the now time-honored and standardized one of hiring a medical staff on a salary, picking men who had made for themselves no substantial reputation in their respective specialties nor accumulated a lucrative practice, and paying, out of their efforts, the deficit of the hospital expense. This is the basis of almost all plans of the industrialists for medical reform. Through their spectacles, the medical man is seen only from a financial viewpoint. It is known that the average earnings of the medical practitioner in the United States is not greater than $5,000 to $6,000 a year. He is, therefore, viewed by the executive of industry as of about the same importance as an assistant department manager or foreman, a sort of second lieutenant of industry.

Few successful businessmen realize that the business viewpoint is not the only one, or that the medical profession has operated successfully under a code essentially different from that of business for several thousand years. Compared with this record, the growth of corporate business and machine manufacturing in less than one hundred years seems merely experimental. The question as to whether a nation founded largely on the rights of property is safe for humanity is as yet undecided.

The proposition of expressing a man's worth solely in economic terms reminds one of the incident of a small-town banker, a trustee of the University of Illinois, who told that brilliant critic and teacher of English literature, Stewart Sherman, that no damned English teacher was worth $5,000 a year. Sherman resigned from the University and accepted an editorial position in New York for several times the figure mentioned.

There are two ways of scrutinizing and investigating medical practice, and both of these have been employed by altruistic industrialists. The first is by attempting to practice medicine and surgery in an experimental way, attacking some problem in social medicine by establishing a clinic, organized not for profit, where the physicians are on a small salary, and where an insufficient charge is made for medical treatment. The Public Health Institute in Chicago is a good example of this method. It goes without saying that no men who have established themselves as reputable specialists and belong to the specialists' societies in Chicago were employed to initiate this work, as these men would expect remuneration somewhat in proportion to their earning capacity. This type of medical investigation is very pleasing to the laity. It has been said that every man has, besides his regular occupation, two professions—that is medicine and law. A few successful business men seem to enjoy great satisfaction from the vicarious practice of medicine. This seems akin to the pleasure many of us get in furnishing amateur legal advice.

The second method is the method of survey. Medical practice has been surveyed from every standpoint. The medical practitioner sometimes feels that he has no more privacy than a goldfish, as Irving Cobb remarked while confined in the hospital for appendicitis. Estimation of the cost of furnishing medical service to a community is one method of survey. In one town in New England medical service was furnished without cost to a community for an entire year to ascertain how this service compared in expense with the price of individualistic practice of medicine. Keokuk, Iowa, has recently been surveyed by the Rosenwald Fund, and the findings published as "A Year's Experiment in Keokuk, Iowa, the Middle-Rate Plan for Hospital Patients."

Now we have borne this scrutiny with whatever equanimity we could muster during the recent period of inflated expansion, production and conceit of business, of super salesmanship and unlimited optimism. We have observed the stages by which great industrialists develop the Jehovah complex.

As members of a profession, eminent and respected, operating under a successful ethical code before mass production, promotion banking, and ballyhoo advertising had supplanted the price of craftsmanship and the instinct of workmanship in manufacture, we feel qualified to make a scrutiny of Business and his patient, Corpus Publicorum. We would like to scrutinize the faith healers of industry and consider the efficacy of some of the economic therapy recently suggested by men in high places as a cure for a condition

where there are now 7,000,000 unemployed in our nation. The patient is suffering from industrial rheumatism, and has a basal metabolism rate of minus 30. It does not seem preposterous that the medical profession should be interested in applying the second method of attending to other people's business—that is, the method of survey—to Business and his patient. It would be interesting to see, also, what therapy the business man is using to deaden the pain or reduce the fever of the panic. How is he approaching the etiological diagnosis of the present financial bellyache? Is he thinking, primarily, of the patient's welfare or of his own? This is a question which the business man has often implied in his survey of medical practice. Is his conception of treatment based on fundamental economic pathology, or is it merely symptomatic? There are many faith healers in industry who keep reiterating in the public press that if the national appetite can be stimulated, and the great, ill assorted meal of fabricated goods which is now on hand eaten and digested by the undernourished population, the vicious circle can be overcome and the wheels of industry will begin to rotate in a virtuous direction. Are the captains of industry spending the correct portion of their efforts on industrial preventive medicine, as they have so often admonished our profession to do? While the patient is slowly convalescing, we are advised to walk on tiptoe and speak in whispers, for the industrialist is a timid physician who is known to be himself easily frightened by fluctuations in the patient's pulse. They are warned in editorials not to suggest any radical modifications in the supervision of business by the Government, for fear the manufacturer himself may develop another cataleptic attack and the stock market reflect this by symptoms of surgical shock.

Serious practical objections are immediately raised by all associations of manufacturers to public control or supervision of production of the necessities of life. Any suggestions by the medical profession of an inventory of demand or a scrutiny of supplies by any Government board would be stoutly opposed. The business man has an emotional loyalty to the present system, which has made him rich and successful. This is a loyalty to a system of individual effort which is interwoven with his religion and feeling of patriotism. Whoever suggests that our business system might be improved is quickly branded as a bolshevik, syndicalist, or some other objectionable reformer. The medical profession can sympathize with this viewpoint. We are making, in our own associations, investigations leading to some important changes in the organization of medicine, to meet the requirements of the machine age. I believe we are more amenable to suggestions for increasing our usefulness to the community than are the present-day manufacturers and business men.

The burning economic question of the moment is not whether business men should reorganize the practice of medicine, but whether business is capable of managing itself.

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LARGE SPONTANEOUS ABSCESS OF LIVER WITH RUPTURE INTO PERICARDIUM

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In this brief report we wish to present a comparatively rare case in which a large abscess of the liver of unknown etiology extended toward the pericardium with rupture into that cavity.

At autopsy the body was that of a well-developed, well-nourished white male 47 years of age, 67 inches in length and weighing 141 pounds. The external examination revealed nothing of importance.

In the internal examination, the essential findings were in the liver and the pericardial sac. This cavity contained 300 cc. of a pinkish-brown cloudy fluid. Both visceral and parietal pericardium were rough and granular. There was a thick coating of fibrin and pus. In the base of the pericardial sac was an opening about 5 mm. in diameter that extended through the diaphragm into a large abscess in the liver. This abscess was about 5 cm. in diameter.

The weight of the liver was 2,700 grams. The left lobe contained a large solitary abscess. This abscess contained foul-smelling, thick greenish-yellow material. Microscopic examination revealed no bacteria or parasites, but the contents

consisted of a large number of pus cells, a few red blood cells, and degenerated liver cells.

The wall of the abscess was rough and ragged. There was no evidence of encapsulation. The liver, itself, was swollen and microscopical examination revealed retrograde processes of which fatty degeneration was the most prominent. Near the abscess microscopically the liver parenchyma was infiltrated with pus and the liver cells showed necrotic changes.

The wall of the gall bladder was thickened and contained 70 cc. of a greenish mucoid fluid and about 50 small stones up to 5 mm. in diameter. A chronic cholecystitis and cholelithiasis.

There was an acute tumor of the spleen. The spleen weighed 250 grams and was soft and flabby. The kidneys together weighed 470 grams and revealed evidence of cloudy swelling. The interior of the heart revealed no pathological changes. The lungs were negative. The gastro-intestinal tract and the genito-urinary tract revealed no pathology.

The clinical history may be summarized as follows: On June 23, 1931, the patient was observed to be in a condition of shock with rapid respiration, imperceptible pulse, cyanosis of lips, fingers and nails. In the chest there was normal resonance and no rales. The left heart border was one inch outside of the left mid-clavicular line. The heart tones were not audible; the blood pressure unobtainable. In the abdomen there was no rigidity and no masses detected. There was tenderness in the left upper quadrant of the abdomen. He gradually grew worse and finally died June 24, 1931, at 3:00 p. m., about 24 hours after the onset of the acute symptoms.

We have presented this as a rare clinical entity and we are unable to explain its etiology. However, we might add that as far as we were able to ascertain there was no evidence of pyemia and no other focus of infection. There was no evidence of either amebic or bacillary dysentery and as stated previously no microorganisms could be demonstrated in the abscess itself. It is possible that this is a sequele of the chronic inflammatory condition present in the gall bladder.

In closing I wish to take this opportunity to thank Sidney D. Wilgus, M. D., Director of the State Psychopathic Institute, for his encouragement, cooperation and guidance in the routine and research work of the Institute.

HAY FEVER IN THE NORTH CENTRAL STATES, ITS CAUSES AND TREATMENT

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In the medical profession and the public alike hay fever has aroused considerable interest, particularly in the last few years. This interest owes its origin to the increasing consciousness of two convictions of vital importance: first, that hay fever is a common and serious disease. and second, that it can be relieved.

Speaking conservatively we may say that there are at least two million people in the United States undergoing annually the torments of hay fever—the running and irritated nose, the difficult nasal breathing, the inflammation of the eyes, the violent sneezing, the uncomfortable days and the sleepless nights. The discomfort of two million people is something to be considered by itself, not to add the economic loss of time taken from work. And 30 or 40 per cent. of these two million have asthma in addition every season. In the group of seasonal asthma cases a fair proportion sooner or later develop chronic year-round asthma. Sinus infection constitutes also another complication of hay fever.

In fact, the whole picture of hay fever is by no means as trivial as visualized by so many laymen and physicians. It behooves us to give attention to this important disease and to exert more effort to properly understand it and treat it.

Etiology. Hay fever is an irritation of the upper air passages, caused primarily by pollen. It constitutes an hypersensitiveness to pollen and affects only a minority of individuals. Such people are termed allergic and may present other manifestations of sensitization, such as eczema, asthma, urticaria, etc. The reason that these people become sensitive to pollen or other substances which are harmless to the majority is probably because of their different constitutional make-up. The nature of this constitutional make-up is not understood although it is known that in most instances it is inherited. The predisposition to become sensitized is inherited

although the actual allergic disease usually is not.

Since pollen is the common cause of seasonal hay fever it should pay us to know something about it. The pollen granules are the fertilizing elements of plant life and are carried from plant to plant or from one part of the plant to another in order to fertilize the female element—the ovum. For this convection of pollen two agencies are provided, insects and wind. While many species of plants are both insect-and wind-pollinated the majority depend chiefly on the one or the other. The only type of pollen that can naturally cause hay fever is that coming from wind-pollinated plants: insect-pollinated plants cannot cause hay fever. For the purpose of attracting insects nature has made these plants of a bright color or a distinct odor. The wind-pollinated plants are drab colored and have very little or no odor. The amount of pollen in the air varies from district to district, from season to season, from day to day, and from hour to hour.[1] The severity of the symptoms is in direct relation to the numbers of pollen in the air.[2]

There are a number of plants causing hay fever. In general they may be grouped in the North Central States into three seasons. Their first, or tree season, occurs from about the last of March to the last of May, and is due to a variety of species of trees, chief among which are elm, poplar, oak, maple, ash and box elder. There are many other trees here capable of causing hay fever. The trees in the near vicinity of the sufferer may have a great influence on the type of sensitization he has. An individual may be susceptible to one or more species of trees and may have his symptoms come during that time at rather irregular intervals. Due to this fact and due to the fact that the symptoms are usually mild they are most commonly interpreted as a succession of "colds." This type of hay fever is much more common than ordinarily believed.

The second season is the grass season. In the area under discussion it occurs from about the middle or latter part of May to the end of July. It is chiefly caused by the following grasses: timothy, June grass, red top grass, and orchard grass. Other grasses may also play a part at times. This type of hay fever is what has been so popularly termed for many generations as "rose fever." Needless to say, roses do not cause hay fever. The severity of the symptoms in this season is usually greater than during the tree season.

The third season begins from the 10th to the 20th of August and lasts until cold weather sets in. It is caused chiefly by the pollen of short and giant ragweeds and is the worst season of all with respect to the number of people affected and the severity of the symptoms. During this season also other weeds may take a part, such as burweed, marsh elder and cocklebur, and Southern ragweed.

It should be remembered that any individual may have hay fever symptoms in one or more of these seasons. Quite frequently one encounters a patient who has his symptoms from March to October. In addition to the plants outlined above there are other plants that may be responsible for hay fever in special localities and special individuals — such as pigweed, lambs' quarters, Russian thistle, sage, and English plantain.

In recent years it has been recognized that many of the seasonal hay fever cases are also sensitive to substances other than pollen—such as foods, feathers, hairs, dusts and a variety of miscellaneous materials. The significance of this is that these extra-pollen irritants may aggravate the hay fever condition while outside of the pollen season they may not suffice to cause symptoms by themselves.[3]

Diagnosis. In the diagnosis of the specific cause of hay fever the history is exceedingly important. The occurrence of the symptoms during the same period year after year gives us an idea of the plants probably involved. However, since any of a number of plants may cause hay fever during a given season and since seasonal "hay fever" may even be caused by substances other than pollen it is necessary to perform diagnostic tests.

Tests are usually made by the cutaneous method. A number of linear scratches are made with a cataract knife usually on the forearms and on these are placed the extracts of all common wind-borne pollens. If the patient is sensitive to a particular pollen he will respond with an urticarial wheal at that site in 5 to 20 minutes. In some cases the scratch method will fail to give a reaction and an intracutaneous injection of a small amount (0.02 cc.) of 1:1,000 extract may be necessary to make the diagnosis.

In a few cases of hay fever the author has had the experience of obtaining negative reactions both by the cutaneous and the intracutaneous methods. In such cases the conjunctival test has usually been positive.[4] This test consists of placing a very tiny speck of crude pollen in the conjunctival sac: a positive reaction, consisting of marked conjunctival injection and edema, will usually appear within a few minutes.

It must not be taken for granted that all seasonal hay fever or asthma is caused by pollen. The author has seen seasonal cases caused by such events as horseback riding, eating of seasonal foods, and the use of excessive amounts of face and bath powders during the summer.[5] For that reason and because of the fact that the true pollen cases may be complicated by other sensitizations it has been the author's practice in the last few years to test all hay fever patients not only for pollen but for foods and other materials usually employed in testing perennial cases of rhinitis and asthma.[6] There are a number of instances in which poor results have been turned into successes by this procedure.

Treatment. The most successful means at hand to combat hay fever is the specific treatment by desensitization. It is not a perfect method, but it is by far the best we have and with proper attention yields satisfactory results. It consists in the subcutaneous injections of pollen extracts, beginning with minute doses and gradually increasing it as tolerance increases.

The first step in the treatment is the selection of the pollen to be used. The pollen selected must fulfill the following requirements: it must be wind-borne, it must be spread during the season in which the symptoms occur, the plant must be in the patient's environment and be there in sufficient numbers, and there should be a positive diagnostic test. For example, according to the above specifications, a midsummer case in Chicago will usually be treated with a mixture of timothy, June grass, orchard grass, and red top grass pollen.

Long Interval Preseasonal Method. The usual method employed and one which yields the highest percentage of results is about as follows: Treatment is begun about 10 or 12 weeks prior to the season. Injections are given at first twice or three times weekly, depending on the degree of sensitiveness. Since there is no definite satisfactory unit of pollen potency and since every individual has to be treated according to his own reactions anyway we merely designate the strength of pollen extracts in terms of dilution: 1:100, 1:1,000, 1:10,000, etc. The 1:100 dilution, for example, means that it contains 100 parts of liquid to every part of pollen. In most instances the first injection is a small amount (usually .05 cc.) of the 1:10,000. In some cases we begin with 1:100,000 or even with 1:1,000,000.

The subsequent dose will depend mostly on the reaction of the patient. If the reaction is slight—some redness, and a swelling no larger than a half-dollar, and lasting no longer than twenty-four hours—the dose may be increased by 50 per cent. If the reaction is much greater the same dose may be repeated. If there is a systemic reaction the dose should be diminished. When a dose of approximately 1.0 cc. has been reached we change to the next stronger solution —1:1,000, and later to 1:100. In an occasional instance we use the 1:33 extract. Probably the average usual dose reached in patients in this district should be around one-half cc. of 1:100. When the pollen season has appeared the maximum dose reached is reduced to about one-fourth or one-half, and that amount is given once or twice weekly until the peak of the season has passed.

It should be emphasized that this is a general outline of treatment. The intervals, minimum and maximum doses, and rate of increase should vary from patient to patient if the greatest degree of success is to be obtained.

Short Interval Method. Quite frequently, of course, the patient will present himself a short time, say one or two weeks, before the season. In that case results may still be excellent although the percentage of success is less than in the cases treated for a long period prior to the season. The treatments in such cases should be given frequently, once or twice daily. In occasional instances results by this method have been found to be even better than by the long-interval method.

If the hay fever sufferer first consults the physician during the season he may still obtain relief by the specific treatment. The procedure

here should be similar to that described in the foregoing paragraph.

Perennial Treatment. In recent years another method of pollen desensitization has come in vogue—the perennial method.[7] This consists of the use of pollen extracts the whole year round. When the pollen season is over the dose used then (about one-fourth maximum) is continued at biweekly intervals throughout the year, increasing it again a few weeks before the following season. If necessary, in some cases the interval may be lengthened to three or four weeks. The advantages of this method are several. It makes the treatment less of a hardship to many patients, such as traveling people, those from out of town, and even those in town. It allows the distribution of the physician's work more evenly throughout the year. It makes possible the reaching of a higher maximum dose. And finally, it probably increases the possibility of cure and does so in a shorter period.

The disadvantages of the perennial method are chiefly concerned with the cooperation of the patient. Frequently appointments are forgotten. The psychological effect may also be undesirable in many instances. For example, many hay fever patients will come four or five seasons for a few weeks' treatment, but very few of these same patients would continue to come to the physician every two or three weeks for five years.

As mentioned earlier in the paper it is necessary to take care of complicating sensitizations. This may consist of the elimination during the season of foods giving positive reactions, the removal of animals and feathers, the discarding of orris-containing cosmetics, etc. In some instances it is advisable to use desensitization treatment for some of the complicating causes.

Systemic Reactions. Systemic reactions occurring during the course of hay fever treatment may consist of a variety of types. One type of reaction is a simple attack of hay fever. Another type consists of an attack of asthma. A third type may be in the form of a marked generalized urticaria, very frequently also accompanied by severe asthma. Another form may be severe shock and collapse and even death. There are a number of other less common reactions. These reactions usually come on from a few seconds to a number of hours after the injection, the most severe ones occurring in the shortest time. Some individuals have more tendency to get systemic reactions than others. While it is not possible perhaps to prevent all reactions many are preventible.

Many untoward effects may be prevented by carefully graduating the dosage of the injections every time based on the results of the previous treatment. If the patient is fatigued, does not feel well, or if the source of the extract is changed, and in a few other modifying circumstances, the dose of pollen should be decreased. Another point that may prevent serious reactions is in the matter of technique. The following precautions are advised. After the needle is inserted subcutaneously it is withdrawn slightly and rotated somewhat on its long axis. Then the plunger is pulled on to note whether blood will enter the syringe. If no blood is sucked in then the extract may be slowly injected. The injected site should not be massaged. The patient sits in the reception room for 15 to 30 minutes after the injection.

By the above precautionary measures the author believes that reactions can be reduced to a minimum. If a reaction does occur it will not be serious. In case of the occurrence of a systemic reaction the first thought should be the administration of adrenalin. Usually 1.0 cc. of adrenalin solution 1:1,000 should be given at once subcutaneously and may be repeated in 5 or 10 minutes if necessary. This may be supplemented for more extended effect by ephedrine by mouth, grains ⅜ to ¾.

Therapeutic Results. The results of specific treatment of hay fever are gratifying. By paying attention to a number of details it is possible to obtain some degree of relief, varying from partial to complete, in 85 or more per cent. of cases and a still greater percentage of the pollen asthma. Some of the hay fever cases are ultimately cured in one or more seasons. It is necessary to point out here that the results described are not obtainable by methods using the same pollen extracts and the same doses for all individuals. The maximum results can only be obtained[8] if the following rules are carried out:

1. The use of potent pollen, properly selected by a study of the patient, including the use of skin tests.

2. The preservation of the potency of the

pollen by storing it in concentrated form in a cool place (refrigerator).

3. The strict individualization of the dosage of pollen with respect to the beginning dose, maximum dose, progression of doses and intervals.

4. The employment of tests for foods, epidermals, and other substances in hay fever patients and the management of the complicating sensitizations either by elimination or desensitization.

As has been pointed out elsewhere,[9] the evaluation of the results of hay fever therapy of any type can only be appraised by a careful comparison of the patient's symptoms with the pollen counts, since the latter will have enormous variations depending on weather conditions.

As an adjunct to specific treatment a few other steps may be of service. Both in the treated and untreated patient some nasal applications may be beneficial. These are chiefly in the form of ephedrine solutions, sprays or jellies. Ephedrine by mouth may have a more definite and lasting effect. Its objections are its undesirable nervous effects and the uncertainty of its action.[10]

Some sufferers are accustomed to go away to places where their type of pollen is present in small numbers or entirely lacking. For the tree or grass cases there are no resorts except the ocean. For the ragweed cases a number of places are present where comparative freedom from symptoms may be obtained. The disadvantages of such form of relief is the expense, the loss of time, and the fact that no immunity is built up.

In recent years pollen filtering apparatus[11] has been used in homes and offices with the idea of obtaining pollen-free air. At this time we may say that at best such forms of treatment cannot replace desensitization treatment. In the majority of cases an eight hours' stay in such a room does not suffice to keep the victim free from major symptoms.

SUMMARY

1. Hay fever is a common ailment with frequent complications, well deserving of our interest and study.

2. For the study and successful management of any case of hay fever one must have first hand knowledge of the hay fever plants in his district.

3. Complete pollen tests are necessary for conscientious work.

4. The routine use of skin tests for substances other than pollen will augment the results and minimize the failures.

5. The preferable method of treatment is the long preseasonal scheme, although the short interval method and the coseasonal method may also bring good results.

6. The perennial method of treatment in cases treated already for one season offers additional advantages.

7. Systemic reactions may be minimized by certain precautions.

8. The maximum results may be obtained by the use of correct and potent pollen, properly preserved and administered according to individual indications, and by attention to complicating sensitizations.

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WHOOPING COUGH—LABORATORY DIAGNOSIS*

LOUIS W. SAUER, M. D.

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Although the pertussis bacillus of Bordet and Gengou of the Pasteur Institute of Brussels fulfills Koch's laws, and a means of early labora-

*Read before the Annual Conference of Illinois Health Officers, Springfield, December 17, 1931. (Illinois Health Quarterly, January-March, 1932.)

tory diagnosis is available, whooping cough remains, next to measles, the most prevalent communicable disease of childhood. The most recent United States Public Health Service Report shows that there were about six thousand deaths due to this germ in children under five years in the registration area in 1928. This exceeds the deaths from diphtheria, scarlet-fever, measles or tuberculosis. The number exceeds that of measles and scarlet fever combined!

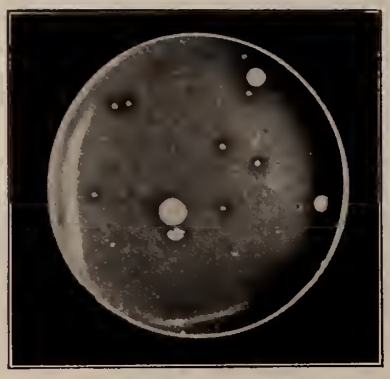


Fig. 1. Cough Plate, natural size. 8 colonies (zoned). The large white colonies are Saprophytes.

No other communicable disease is diagnosed with such uncertainty and tardiness, or is so frequently left undiagnosed. Under existing circumstances, quarantine is very seldom established until the patient whoops, i. e., after the period of greatest contagion has passed. During the first weeks the bacillus is profusely disseminated into the patient's immediate environment —a prototype of Flügge's droplet infection. The present status of its diagnosis is quite analogous to the clinical diagnosis of diphtheria before the advent of Loeffler's method of bacterial diagnosis from cultures.

The Cough-Plate Diagnostic Method. The cough-plate or cough culture method of early diagnosis was discovered by Chievitz and Meyer of Madsen's Laboratory in Copenhagen in 1916. Not until years after the war did it gain recognition. It is now used routinely by Danish physicians and health departments. Physicians obtain culture-boxes which they expose and mail to their local department for incubation and identification. The department reports to the physician within two to five days. The Boston Whooping Cough Commission based their observations on this method of diagnosis. Lawson and Mueller published the first American paper on the subject in the J. A. M. A. in 1927. At the suggestion of Prof. L. Hektoen we began to use the method in 1926. In 1928 our first publication (Sauer and Hambrecht), based on one hundred private cases, appeared in the J. A. M. A. Due to repeated inquiries from health departments and research workers, including requests for details another paper was published on the method in the J. A. M. A. in 1930. We have now used the cough culture in about three hundred and fifty cases. McGee's paper on the method appeared in the J. A. M. A. in September, 1931.

Everyone who has mastered the details of the technique considers a positive cough culture decisive and conclusive. During the past five years we have reported to our local health departments as whooping cough every positive finding, and the subsequent clinical course invariably verified the early diagnosis. Needless to say we report also any coughing non-immune with the characteristic lymphocytosis and whooping children with negative cultures. The method is a valuable aid, but it is not infallible. If the cough has persisted for several weeks, the plate will probably be negative, no matter how typical the cough nor how perfect the plate-exposure. It may seem paradoxical that one-third of our patients in the paroxysmal stage, did not exhale bacilli when plates were exposed.

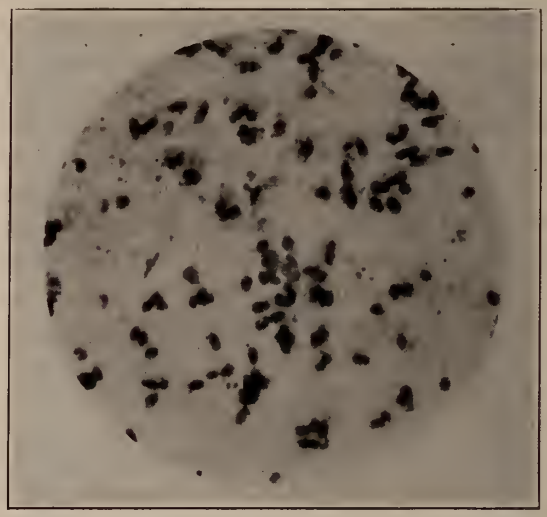


Fig. 2. B. Pertussis (Gram stain) x 1,740.

Positive Plates Are Always Diagnostic.— Never do plates exposed to coughing non-immunes show the bacilli if the patient does not

have whooping cough. As in many other diseases, notably diphtheria and tuberculosis, a case may be typical clinically and bacteriologically; or, it may be questionable either clinically or bacteriologically. A pertussis patient with negative cough plates is usually far enough along clinically to show the characteristic lymphocytosis or some of the paroxysms end with the typical whoop. The cough plate or culture method is not infallible, but a positive culture is infallible and indisputable evidence.

COUGH PLATE (Per Cent. Positive)

Author	C & M	L & M	S & H	Average % Positive
No.	914	510	300	
Catarrh	75	59	99	78
Paroxys	50	45	67	54
Decline	9	5	0	5

This table shows the percentage of positive cultures in the three stages of the disease. The column headed C & M shows Chievitz and Meyer's results in 914 cases; column L & M represents Lawson and Mueller's results in 510 cases; S & H is Sauer and Hambrecht's findings in 300 cases. The final column gives the average percent positive of the three groups of investigators, based on a total of 1,724 cases. Our high percentage is possibly explained by the fact that many of the patients were seen very early, that we exposed duplicate plates and made repeat cultures if the first set was negative. We never had a positive plate in the decline period.

The conclusion to be drawn from these figures is that the cough plate or culture method of diagnosis is valuable early in the disease, at a time when all other methods of diagnosis are negative or misleading. This evidence furthermore is conclusive that pertussis patients are seldom quarantined during the most contagious period of the disease—the catarrhal and early paroxysmal stages.

Making the Cough-Plate Medium.—The medium used for the cough plate is easily made, as filtration and titration are unnecessary. To 500 Gm. of peeled, sliced potatoes 40 cc. of glycerin and 1,000 cc. of distilled water are added. This is boiled in a covered kettle until the potatoes are soft; the amount of water lost by evaporation is replaced by adjustment to the original weight, and the mixture is strained through gauze. To 500 cc. of this filtrate, 1,500 cc. of 0.6 percent salt solution and 60 Gm. of agar are added. (This will make 2 liters of 3 percent agar.) An asbestos mat and stirring will prevent scorching. Adjustment is made to the original weight and the mixture is bottled in 150 cc. amounts and autoclaved. The potato agar can be stored in a refrigerator for months. The sediment of potato debris that appears should cause no concern, as the melted agar is poured off when the medium is used. The melted contents of a bottle is allowed to cool to 45 degrees C before it is added to 30cc of sterile, defibrinated blood, warmed to 45 degrees C. Human, horse, sheep or goat blood may be used. Gentle rotation and tilting of the bottle should mix medium and blood without air-bubble formation. It is then quickly poured into sterilized petri-dishes or aluminum culture boxes. A satisfactory size is 1½ x ¾ inches (No. 148D of the Aluminum Goods Manufacturing Co. at Manitowoc, Wisconsin). Such boxes require very little medium, can be readily transported and dry out very slowly if a broad rubber band is kept over the seam. The finished cough culture should be cherry red and have a smooth moist surface. If too hot, the medium darkens on cooling. This makes it difficult to recognize the colonies early and obscure the characteristic zone of hemolysis frequently present on the third day. When more than ten days old the medium usually darkens or the surface becomes too dry. As pertussis is a seasonal and regional disease an excessive supply of prepared culture boxes should not be poured. Culture boxes should be stored in the refrigerator until needed.

Before diagnosis is attempted by the cough plate method, important technical steps should be mastered. The medium should be sterile, bright red and the surface should be smooth and moist. Preliminary contamination can, to a great measure, be avoided by using only blood gotten aseptically, and closing laboratory doors and windows, and wiping the table with a wet cloth just before plates are poured. They may be incubated for twelve hours to insure sterility, but when the technique is flawless this is neither necessary nor advisable.

How to Begin. The beginner should inoculate a series of petri-dishes with B. pertussis and the small, discrete, round, elevated, shiny, mercury-like colonies should be studied from day to day. By the end of the third day a colony approximates 1 mm in diameter and is usually surrounded by a hemolyzed zone which appears

translucent in transmitted light and definitely darkened in reflected light. The width of this zone may ultimately exceed twice the diameter of the colony. Duplicate plates should then be exposed to early cases of known pertussis. Overgrowth by mouth-saprophytes (B. subtilis, B. mycoides and moulds) can, in part, be avoided if the patient drinks water just before the plates are exposed. The characteristic B. pertussis colonies are usually identified between the third and fifth day of incubation. Plates should be examined each day so that rapidly growing contamination can be cut out with sterile platinum wire as soon as recognized. A hand lens, used in bright light, is helpful in finding the raised, round, grayish-white colonies of B. pertussis in thickly seeded plates.

Cultures which have darkened do not show the most distinctive features of the colonies. If few in number, colonies may not be recognized until the fourth or fifth day. Aluminum boxes should not be used until one is familiar with the growth characteristics of B. pertussis, studied from petri-dish cultures.

Smears for microscopic examination diffuse promptly throughout the droplet of water on the slide. Stained by Gram's method (negative) or by toluidine blue, smears consist of small, delicately staining ovoid bacilli, some of which show bipolar staining.

Proper exposure of the cough culture-box is most important. Superficial coughs or pharyngeal coughs, provoked by dry foods, are not desirable as such plates seldom contain pertussis bacilli and are usually overgrown with mouth saprophytes. The best cough is of the expulsive type from the bronchi rather than the throat, because the site of the whooping cough lesion is in the lower air passages. After the patient drinks cold water the culture box is uncovered and held vertically, about 3 inches from the open mouth only at the moment of one or two expulsive coughs. If a voluntary cough is not elicited, repeated touching of the larynx or posterior pharyngeal wall, or external pressure on the larynx or trachea, the drinking of cold water, laughing, running or crying may provoke the deep cough. A forceful strike between the scapulae with the flat hand may produce it. Poorly exposed plates should not be incubated. A negative plate does not exclude pertussis.

Plates should be exposed in duplicate and incubated in an inverted position as soon as possible, not later than eight hours after exposure. The two most frequent pitfalls are that plates are not well enough coughed upon and that they are exposed too late in the disease. If members of a family manifest coughs of varying duration, a plate exposed to the patient most recently affected will more likely yield positive results. Not infrequently parents wilfully minimize the duration of a cough. Some children (formes frustes), many infants and most adults never whoop. Children who have had pertussis may whoop and vomit during subsequent severe coughs without expelling bacilli. Adults in attendance and, in rare instances, children, may contract the disease a second time. A negative plate does not exclude pertussis and a second plate may be positive.

Procedure to Be Adopted. Adoption of the valuable procedure by health departments will not be practical without the closest cooperation of all concerned. Parents of non-immune children, teachers, physicians and public health workers should not only become whooping-cough "minded," but each forms an important link in a concerted effort at earlier diagnosis. Physicians in urban communities would doubtless prefer to notify the local health department about coughing non-immunes. The trained health worker would then expose the cough culture-box and the bacteriology department reports to the physician. The method would not replace current methods for advanced, unquestionable cases, but many patients would be in quarantine a week or two earlier than is now customary. It would doubtless be best for the state department of health to make the culture-boxes available for local health departments whose bacteriologists could be trained to identify B. pertussis colonies and organisms.

The most potent weapon we today possess in abating the high toll of whooping cough deaths is earlier quarantine. This is possible solely by earlier diagnosis. A positive cough-plate is not difficult to obtain if exposed sufficiently early. The handicaps are not insurmountable.

DISCUSSION

Howard A. Orvis, M. D., Health Officer, Winnetka, Illinois. In considering this paper by Dr. Sauer one can only express admiration and respect for one who,

in the midst of a busy practice of pediatrics, carries on such painstaking research.

Practicing physicians and public health workers alike in evaluating the accomplishment in control of whooping cough have been pessimistic.

The case rate per 100,000 population for the United States for 1922 to 1928 inclusive show the following figures:

1928	1927	1926	1925	1924	1923	1922
139.6	147.8	167.4	133.9	141.4	162.1	109.3

We can find no more variation than a gentle wave reaching a maximum every 3 or 4 years.

Age incidence also runs with striking uniformity. Comparing a ten-year incidence in Massachusetts comprising 71,716 cases with a five-year incidence in New York comprising 21,800 cases, we find in each group 8 per cent. occurring in children under one year of age; 41 per cent occurring among children of 1 to 4 years, inclusive; 40 per cent among children 5 to 9 years, inclusive and 5 per cent among children 10 to 14 years old.

We can predict with accuracy the incidence in these age groups over a five-year period in any comparable area.

Death percentages in age groups are likewise very uniform. Fifty-five to 60 per cent of deaths are among children in the first year of life; 35 to 40 per cent. are among children between 1 and 5 years old and from 3 to 4 per cent, among older people. The mortality rate including all ages, however, has decreased 30 per cent. in 20 years. The average annual death rate in the United States was 9.8 per 100,000 for the period 1910-1914, and 6.8 for the period 1923-1927.

In Illinois 10,277 cases and 260 deaths were reported in 1929. The Winnetka experience with 529 cases shows that 2.4 per cent. occurred among children less than one year old; 31.4 per cent. in children from 1 to 4 years, inclusive; 54.6 per cent. in children 5 to 9; 10.7 per cent. in children 10 to 14 and 0.7 per cent. in older people. From the standpoint of diagnosis the Winnetka experience showed only 34.4 per cent. of the cases were recognized as whooping cough in from 1 to 7 days after onset. Definite diagnosis in 16.7 per cent. of cases was made in from 8 to 10 days after onset; 22.7 per cent. in from 11 to 14 days and 26 per cent. after a lapse of 14 or more days after onset.

From these figures we might conclude that we are having little or no control over incidence of whooping cough but that we are having better results in providing care for the sick.

The questions now arise:

Can we by present methods control incidence?

Can we shift the incidence from the younger age groups to higher?

Will the efforts now used to control the disease reduce mortality if carried out with great care?

Feeling that whooping cough is one of the major hazards in child life, we, in Winnetka, have attempted to use all means at our disposal to control the incidence and to see that all cases have proper care. Such a study can only be carried out in a limited area with adequate nursing service and close cooperation with schools and family physicians.

We believe by checking contacts and a close school supervision that we have had a report of over 50 per cent. of our cases.

We find that about 75 per cent. of the cases have come under the care of private physicians and all cases showing alarming symptoms have received professional care. The observation covers five years among 12,000 people which will probably give us a fair idea of average incidence. The total incidence was 529 cases or 106 per year per 12,000 population which is several times greater than any large group of population is reporting.

Our efforts at control were concentrated on excluding suspicious cases from school and other groups, isolating contacts, strict quarantine of cases and instruction to mothers to avoid contact, of babies and young children with cases.

In answer to the second question, "Can we shift the incidence from the younger age groups to the higher?" we find that even with intense effort at control about one-half the cases are not diagnosed until 10 days or more after onset, during which time they were spreading infection.

Most of those diagnosed in 1 to 7 days were contacts in the home. Most of those diagnosed after 14 days were extremely light cases that with less thorough effort at control would not be reported. The incidence in age groups shows a variance in comparison with Massachusetts statistics:

Age	0-1	1-4	5-9	10-14	Over 14
Winnetka Cases	13	166	289	57	4
Per cent.	2.4	31.4	54.6	10.7	0.7
Mass and N. Y. Percentage	8.0	41.0	40.0	5.0	0.6

This would indicate that we have shifted incidence from the first year to the 1 to 4 age group into the groups 5 to 9 and 10 to 14.

We had no deaths among the 529 cases. If average rates as computed from reported cases and reported deaths were used we might have expected 10 or 12 deaths.

Our conclusion is:

(a) That only a comparatively small percentage of cases are reported.

(b) That intense effort at control does not limit incidence but may shift it from the lower to the higher age groups.

(c) That the greatest result in controlling mortality is to see that severe cases, especially in children under 4 years of age, receive early treatment.

The conclusion leads us to feel that new and better methods are in order if we hope to exercise any appreciable degree of control over the prevalence of and mortality from whooping cough. Dr. Sauer has demonstrated in private practice that he is able to make early diagnosis by the cough plate method. With 50 per cent. of our cases not diagnosed until they have been infectious ten days or more and with comparatively large percentages, I estimate 10 to 20 per cent., which are

sufficiently subclinical to evade diagnosis, it would seem that any method of early diagnosis is very important.

SILENT ENDOCARDITIS*

DON C. SUTTON, M. D.

CHICAGO

The term silent is used instead of latent (dormant) to convey the idea of an active, destructive process of one or more valves of the heart without any clinical evidence of such an insidious lesion until the secondary physical findings of valve destruction are evident.

This is best made clear by the citation of illustrative cases:

Case 1. A girl, 14 years of age, was first seen three years ago. She had grown very rapidly the preceding year, being at the time 5 feet 7 inches tall, and weighing ninety pounds. She had been under observation for some time by her family physician because of underweight, nervousness and tachycardia. She had had no illness during the past year, and no complaints at the time. When first seen, she showed nothing of diagnostic importance upon physical examination except undernutrition. The heart showed the apex beat in the midclavicular line, tumultous and well localized; heart borders and configuration normal. Ausculation revealed a systolic murmur at the apex. The only significant findings were a rapid heart rate—130 to 140 per minute—and a fine tremor of the hands. She was very excitable during examination, but when at rest the mother always found a pulse rate of 120 per minute or more. She had had no temperature.

Urine was normal. Repeated blood counts showed both red and white cells within normal limits. Basal metabolism was normal.

Her symptoms were presumed to be due to puberty, and bed rest and a high caloric diet was advised. This procedure was carried out for three months. At no time during this period was there any fever or other evidence of an acute infection. The pulse became slower, so that at the end of the period of bed rest the rate was usually under 100 per minute, and she had gained twenty-two pounds in weight. The systolic murmur persisted, but no other evidence of valve lesion was present.

She was gradually allowed to be up and about under supervised exercises, and regained strength without loss of weight, so that six months later she was allowed to return to school. At this time it was noted that there was some enlargement of the left auricle and the second pulmonic tone had become accentuated. During the next six months there was a gradual enlargement of the right ventricle and the appearance of a presystolic thrill and murmur. During the year, then, there had developed a mitral insufficiency and stenosis without other evidence of an active process other than a rapid heart rate.

In both private practice and in the cardiac clinic we have observed large numbers of cases of so-called rheumatic heart disease in which no history of rheumatism, chorea, tonsillitis, or other causative factor could be obtained. After observing such a case as the preceding one, the question naturally arises as to the frequency of the condition. It appears not improbable that many cases without any significant history as a cause for an organic valve lesion may belong in such a group.

Case No. 2. Mrs. H. J., 25 years of age, was admitted to the cardiac clinic after being discharged from the hospital. The pulse was regular. Percussion of the heart showed enlargement of the right and left ventricles and left auricle. A soft systolic murmur was heard over the apex. The liver extended four fingers below the costal margin. The diagnosis at the clinic was mitral insufficiency and stenosis. She regained complete compensation in a short time, and remained compensated.

Eight months after admission to the clinic a soft systolic murmur was noted over the aortic area. This was noted at various times during the next ten months. At the end of eighteen months—or ten months after the aortic systolic murmur was first heard—a soft diastolic murmur was heard over the aortic area. During the following six months she developed all the typical findings of an aortic insufficiency, in addition to those of the mitral disease already present. During the entire time complete compensation was maintained, and only once was a temperature of 99.6 observed. A leukocytosis was never observed. A number of such cases have been observed in the cardiac clinic in the past eleven years.

Case 3 was a man, 40 years of age, who had had acute rheumatic fever as a child, which left a mitral disease which had never caused him any inconvenience. When seen in December he had an acute bacterial endocarditis from which he died the first week of January. The preceding history in this case, as told by the patient and his physician, is especially important.

In April he first consulted his physician because of fatigue. This fatigue appeared to him to be out of proportion to his activities. As the summer wore on he complained more and more of fatigue, and added to this was free sweating. During this time a slight leukocytosis was found. Temperature had not been taken. He gradually became weaker and increasingly less able to perform his usual tasks. In November he began having chills and fever, at which time the endocarditis was first recognized.

Discussion:

Case 1 calls attention to the fact that a rheumatic endocarditis may be present without the

*From the Department of Medicine, Northwestern University Medical School.

usual preceding manifestations, such as acute articular rheumatism, chorea or tonsillitis and without the usual manifestations of acute infection, leukocytosis, etc.

Case 2 is entirely like the first case, with the exception that there is already present evidence of a preceding infection.

In both, the presence and progress is so silent that it will be entirely overlooked unless the patient is most painstakingly examined at frequent intervals.

That its progress will be materially modified as a result of its recognition may be seriously questioned. Nevertheless, the most important factor in functional recovery from a benign endocarditis is prolonged bed rest, which will certainly be neglected if the process is unrecognized.

The last case serves to call attention to the extreme importance of fatigue as an early symptom of cardiac failure. As reinfection is a common precipitating cause of heart failure, fatigue without demonstrable cause calls for careful study of the patient.

While the course and prognosis of a streptococcus viridans endocarditis is almost universally bad, many cases are seen with a low grade fever, weakness and leukocytosis, which, if given prolonged complete bed rest, recover completely. May it not be true that the early recognition of such cases might result in the recovery of some?

Conclusions:

1. A case is quoted in which a mitral valve lesion developed entirely without symptoms except a tachycardia.

2. Attention is also called to the fact that an endocarditis may involve a new valve in the presence of a chronic valvular disease, without giving any external evidence. With a preceding chronic valvulitis of the mitral valve, new involvement of the aortic valve has been observed a number of times, and of the tricuspid valve two times.

3. Attention is called to the importance of fatigue as the first evidence of, and preceding by a long interval, definite evidences of bacterial endocarditis.

30 North Michigan Avenue.

ACUTE SPINAL CORD DEGENERATION WITH A CASE REPORT*

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MONMOUTH, ILLINOIS

It is obviously not feasible to attempt herein, even the briefest resume of the many diseases and conditions in which there may be some degeneration of the spinal cord.

What I purpose to do, is to recall to you a few of the acute degenerative conditions of the spinal cord having a particular interest, from the standpoint of differential diagnosis, on the case herein reported.

The case will be presented first, and the discussion of its diagnosis will follow. As you will note, I have attempted to present the history, symptoms, physical and laboratory findings, and progress, in the order they were revealed from time to time in the care of this case.

The case is that of a male, aged 37 years. Farmer. American. Family History: Father died of heart disease at 68 years of age. One brother killed in accident. One brother and four sisters living and well. Personal History: No venereal diseases of any kind. Has three children, all in good health. Wife has had no miscarriages. Past History: During his second year had many convulsions, probably due to dentition. Appendicitis and appendectomy at age 16. Herniotomy at age of 23. Otherwise has been in exceptionally good health.

I first saw this patient at my office on September 30, 1931. Complaint "did not track well." Numbness just below left groin. Weakness in left leg. This weakness had been coming on for several days and gradually becoming more noticeable. Left foot had tendency to drag. Quite an effort to step over objects and climb stairs. There was no pain. There was no history of recent sickness. No fevers. No vomiting or nausea. Was probably slightly constipated, but thought not more than usual. No disturbance of urinary tract. Appetite good. Slept hardly as well as usual. No history of recent injury at this time.

Physical examination at this time showed a normal pulse and respiration. Teeth and throat showed no evidence of disease. The heart and lungs were normal. No pathology was found in the abdominal viscera. The skin was cool and moist. There was no rash nor scars (except operative) nor discolorations. The lymph glands were not palpable.

The upper extremities were normal. The pupils reacted to light and accommodation. The pupils were equal. There was no disturbance of vision.

The patient walked with a slight limp in left leg.

*Paper read before the Monmouth Medical Club, April 7, 1932.

Definite though not marked tendency to drag left foot. He gave one the impression of an infantile paralysis case with slight permanent paralysis.

The patellar reflexes on left side were sluggish; the plantar reflexes decidedly so, but present. The reflexes of right side seemed normal. Patient could flex and extend left leg and flex thigh on abdomen, but with noticeable effort. The power of flexion and extension in the left ankle was considerably diminished. There were no noticeable changes in the right lower extremity.

The patient was ordered to bed, a light diet was prescribed and blood taken for a Kahn test.

I next saw this patient three days later at his home, where he had gone for treatment. At this time he could lift, flex and extend the left leg only by extreme effort. Sensation was very feeble and the reflexes were lost. There was no temperature rise and the pulse was normal. He was more constipated, but there was no difficulty in voiding urine. At this time the patient complained of a dull pain in the back, and some pain was elicited by pressure over the sacroiliac articulations.

At night, on October 3, there was a numbness below the groin in the right leg and beginning paralysis.

On October 4 both motor and sensory paralysis was complete in left leg and the following day the same was true in right. At this time he began to have difficulty in voiding and defecating and on October 5 and thereafter had no power to void or to evacuate bowel contents, necessitating catheterization and colonic flushings.

On further questioning among relatives and neighbors the information was brought out that just previous to onset of his trouble the patient had lifted a heavy oak hog-hut. Shortly after this, he remarked to a neighbor that he felt something was wrong with him and wondered if he could have ruptured himself. Asked regarding this the patient admitted it and stated that he had frequently lifted such loads without bad effect and that because of this he did not connect it with the weakness in his leg and therefore had forgotten to mention it at the time we first questioned him regarding recent injuries. He also stated at this time that early in the course of his trouble he tried to catch a pig and was dragged into a ditch at which time he felt faint for a short time. He did not mention this in his first report, as it happened after the weakness in his leg started, and it did not occur to him that it had anything to do with his condition.

The patient was brought to Monmouth Hospital on October 5. A report on the blood Kahn was forthcoming at this time and was negative.

Incidental to the loss of power in the bladder and bowel there was a rise of temperature. On admittance the temperature was 100.4 F., pulse 82, respiration 20.

The urine was normal except for a few pus cells. Blood urea 30 mg. per 100 c.c. of blood. The spinal fluid was clear and not under increased pressure. The spinal fluid was negative to Kahn test.

Leucocytes 5000 per c.mm. X-ray showed no lesion of spinal column.

On October 6 the temperature was rising. The patient had lost his appetite. There were gastrointestinal disturbances, such as bloating, vomiting and pain in the epigastrium. There was marked tmypanites. The abdominal reflexes were absent to about the level of the umbilicus.

On this date we had on consultation Dr. George B. Hassin, Professor of Neurology at the University of Illinois Medical School.

His report was as follows: "Examination of October 6 revealed the flaccid paraplegia with total loss of tendon and skin reflexes in the lower extremities; anesthesia for pain, temperature, position and pressure senses, with preservation of the touch sense, the anesthesia extending up to the level of the XIth thoracic spinal segment (or 9th dorsal vertebra) and retention of the bladder and rectal functions. Bed sores, cranial nerve disturbances were absent. Mental condition was good."

"The x-ray showed no evidence of vertebral column lesion such as fractures or dislocations, Pott's disease or other disturbances.

"Pott's disease may cause spinal cord softening just as spinal thrombosis from syphilis or any other etiology may cause. The prognosis in either case is hopeless, but the antisyphilitic treatment has been recommended as a last resort. Surgical interference is contraindicated in this case."

From October 6 there was daily increase in temperature reaching a peak height on October 10 when it was 105.4 F. The pulse rate on this day was 91 and the rate of respiration ranged from 20 to 30.

There was aggravation of the gastrointestinal symptoms and considerable epistaxis and headache.

October 10 and 11 the patient was irrational. On October 12 some decubitus was present in lower extremities. A spinal puncture at this time was cloudy and showed many cells. The urine was cloudy, showing both pus and albumin.

The patient expired the evening of October 12, evidently from toxemia.

Autopsy failed to reveal any pathology of the abdominal viscera except a moderate inflammatory condition of the kidneys.

The spinal cord was removed intact from the sixth dorsal vertebra to and including the cauda. On opening the membranes at the level of the 9th and 10th dorsal vertebra a large quantity of whitish material resembling pus exuded. The cord was markedly degenerated for a space of about two inches in this region. The report of Dr. Hassin, to whom the specimen was sent for section, is as follows: "The sections of the spinal cord of Mr. A. show even without the miscroscope softening of the posterior columns, a greater portion of which dropped out. But even the preserved

areas are only apparently normal. With some stains such as methyl-blue-eosin a degeneration of the nerves with a formation of fat granule bodies can be seen with the high power. I could find no particular changes in the meninges that would explain the softening. It was undoubtedly of vascular origin (thrombosis) but further studies are necessary to clear up this difficult question."

Reviewing the possibilities in this case of acute spinal degeneration of the cord, from the time it was first seen until its fatal termination two weeks later, several diseases present themselves as necessary of consideration, namely:

Acute anterior poliomyelitis, hematomyelia, acute myelitis and myelomalacia.

Acute Poliomyelitis is mentioned because in its early stages the paralysis in the case under consideration was not unlike that of infantile paralysis, in fact the patient feared that this was the cause of his trouble. A child of his brother was a paralytic from this disease and being somewhat familiar with it they were naturally apprehensive.

However, there was no history of fever, malaise, coryza, cough, vomiting, diarrhea or pains to suggest poliomyelitis. There were no erratic tendon reflexes as is often the case in this disease, but a definite progressive loss of them. Moreover in this case there was an early disturbance of sensation which is not typical of poliomyelitis.

Because of these facts and the subsequent developments, the possibility that it was infantile paralysis was early abandoned.

Since any destructive lesion of the cord, be it caused by disease, severance, tumor or what not, will, depending upon the amount of destruction that has taken place, produce symptoms that are identical, I am here enumerating some of these general symptoms that may be common to the other diseased conditions mentioned, i. e. hematomyelia, acute myelitis and myelomalacia.

A total transverse lesion will produce:

At the upper end of sacrum: Paralysis of all muscles of the leg except those supplied by anterior crural, the obturator and superior gluteal nerves. Paralysis of the perineal and penile muscles. Anesthesia of the penis, scrotum, perineum, lower half of the gluteal region and all of the legs except the front and outer parts of the thigh, which are supplied by the cutaneous branches of the anterior crural, and the region supplied by the long saphenous nerve. The bladder and rectum are both shut off from their spinal centers and hence there will be temporary retention of urine, followed by distension with overflow, and incontinence of feces.

If the region affected is the dorsi-lumbar there is complete paralysis of muscles of both limbs including those passing to them from the trunk: total anesthesia of the legs, gluteal and perineal regions and possibly the lower part of the abdomen.

If the mid-dorsal region is affected the same phenomena are met but to them are added a more extensive region of anesthesia, limited above by hyperesthetic zone which feels like a tight painful girdle round the waist; paralysis of the flat abdominal muscles; and retention of urine, followed by distension with overflow.

In the cervico-dorsal region all of these phenomena are present, but the anesthesia extends over nearly the whole trunk, and the hyperesthesia may involve the arms, whilst the intercostal and spinal muscles are paralyzed.

In the lower cervical region the arms become involved in both paralysis and anesthesia and the patient is likely to die in 36 to 48 hours in a condition of hyperpyrexia.

If at the level of the fourth cervical vertebra instant death results from paralysis of the phrenics and consequent stoppage of respiration.

In any of these spinal cord degenerations the approach to these signs of total transverse lesions will be in ratio to the amount of destruction that has actually taken place at a given level.

Hematomyelia deserves a more careful consideration herein than did anterior poliomyelitis.

This disease is rare compared to apoplexy of the brain. It seems to occur most frequently in males between 20 and 30 years of age.

The most frequent cause is trauma. It is not necessary however, that the spinal column be injured to produce hemorrhage. A fall on legs or buttocks, direct injury to the spine, sudden forward flexion of spine, lifting of heavy loads and military drill etc., are causative factors in this condition. The morbid changes are those of edema and necrosis depending of course on the extent of the lesion. The lesion may extend throughout the gray matter, be limited to one side, or spread vertically.

It may involve one or two segments or may extend through many levels. The gray matter since it contains more blood vessels is more frequently involved than the white. The lateral columns are not frequently involved.

As for symptoms the onset is usually sudden suggesting a transverse lesion of the cord. The patient may fall to the ground on account of weakness of legs. Sensory changes are present as are disturbances of sphincter control. Trophic phenomena soon make their appearance.

Sometimes symptoms are less fulminating and the complete syndrome does not appear, until inflammation and necrosis have taken place.

Other symptoms depend on the level and extent of the lesion as outlined above.

Acute Myelitis most frequently follows acute infectious diseases especially typhus, typhoid, malaria, influenza and smallpox.

Tuberculosis, septic infections, gonorrhea and syphilis are also causative factors. Trauma is also given as a cause.

Acute myelitis has a rapid onset. There is headache, malaise and chills followed by a rapid rise in temperature. The patient complains of dullness and nausea. There is a tingling in ankles, toes and feet. Weakness and heaviness develop in legs. The bladder ceases to function and there may be incontinence of feces.

In brief the usual symptoms of acute myelitis can be summarized as follows:

Subjective:

Fever rising to 103 to 104 F. the first day and dropping to normal at end of three or four days.

Paralysis. Rapid in onset. First flaccid and then spastic.

Spasticity develops where lesion is complete.

Reflexes first lost later exaggerated. Ankle clonus and Babinski reflex are present.

Trophic disturbances are frequently present.

Marked atrophy of disuse developes in paralyzed limbs.

Subjective:

Malaise, ushers in the disease.

Pain often present. Dull in character, short in duration and distributed in the back. It does not occur in the vertebra.

Weakness is one of the first symptoms noted by the patient. As condition advances it is referred to the legs.

Tingling of the legs is an early symptom. It passes in a few days and gives way to heaviness.

Both sphincters are usually affected. Paralysis of bladder may precede that of legs.

Sensory disturbances may vary from slight impairment of touch to complete anesthesia. The upper level of anesthesia is marked by a band of hyperesthesia.

Myelomalacia or softening of the spinal cord is a lesion resulting from embolism or thrombosis in the arteries of the spinal cord. Such a softening may be red when accompanied by a transudation of blood cells or by minute hemorrhages, or white when the condition has been one of simple death of the tissue, or it may be yellow if the process is not observed until after a fatty degeneration of the debris and of the neuroglia elements has ensued. Microscopical examination shows a mass of debris, cells and fibers in a state of disintegration, balls of myelin, swollen or small granular bits of axones, drops of fat, and red blood globules.

The initial lesion, as well as the resulting sclerotic patch, is irregular in outline and very variable in extent, the conditions being such as to prevent any strict limitation of the softening in any direction. The result of a diminution in the blood supply of the spinal cord, or a suspension of nutrition consequent upon ischemia, is a parenchymatous degeneration of the neurones and of their branches in the regions affected. Recent pathological study seems to indicate that many cases of supposed myelitis are really cases of softening of the cord due to thrombosis in diseased blood vessels.

The main arteries of the cord are three in number. They lie on the anterior and posterior surface of the organ along its entire length. The anterior spinal artery is formed by the junction of two vessels which arise from the vertebral arteries and it extends to the lowest part of the spinal cord. The posterior spinal arteries also arise from the vertebral arteries, but do not often join. They pass downward along the surface of the cord on either side near the entry of the posterior spinal nerve roots. In addition to these main arteries there are a large number of smaller arteries, branches of the intercostal arteries, which enter the spinal canal at the sides of the spinal nerves and are distributed to the anterio-lateral surfaces of the cord, freely anastomosing with each other. These divide into ascending and descending branches and anastomose freely

with the anterior and posterior spinal arteries making a sort of arterial network about the cord from which small branches penetrate the surface of the organ.

In the fold of pia mater in the anterior fissure of the spinal cord is found a large branch of the anterior spinal artery and from this branch secondary branches enter the gray matter of the spinal cord and pass down it, forming the central arteries of the cord. Thus the supply of the gray matter and the white matter is from different branches.

All of the spinal arteries which enter the cord are terminal arteries like the basal arteries of the brain; that is, they do not anastomose.

Hence an embolism in a spinal vessel always leads to an area of softening.

Clinically the symptoms of myelomalacia are identical to those of myelitis. Some text-books describe the onset as more rapid in the former, but that this is not always true is evident in some cases described.

In the case we have presented as a basis of this paper we believe we have one of myelomalacia with obscure etiology.

In the absence of any evidence of lues or other infection I believe that we must give considerable weight to the possibility of a vascular injury when the patient lifted the heavy weight and possibly to an aggravation of this injury when he was dragged into the ditch.

THE PRACTICAL USE OF THYMOPHYSINE IN OBSTETRICS

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Since ancient times the obstetrician has tried to relieve the pain of childbirth. This he has not been able to do to a satisfactory degree. General anesthesia plays a great part in this field but does little to shorten the duration of labor. Dr. Temesvary of Budapest attempted to shorten the duration of labor rather than to make it painless by the use of thymophysine.

Since 1929 we have been using this drug in selected cases in St. Joseph Hospital, Chicago. In all cases the external pelvic measurements have been within normal limits and the fetal head has been engaged before the drug was injected. In the twelve cases of primiparae all presentations were of anterior position and all deliveries were normal. There were no deep tears, and no marked hemorrhage. The average length of labor was from seven to thirteen hours, with a shortening of labor of about five to six hours. In twenty-four cases of multiparae there were three in posterior presentation of the head and all were normal deliveries. The results were about the same with an average length of labor of about five to seven hours and a shortening of about two to three hours.

Thymophysine increases the action of the uterine muscle in the first and second stages of labor and shortens the third period. It also decreases the post partum hemorrhage. It can be injected at the beginning of the first stage. 1 c.c. can be injected subcutaneously or intramuscularly in the arm or leg. The effect is noted five to eight minutes later. The pains are increased in strength and become regular and rhythmic without causing tetanic contraction. The thymus constituent causes a slight inhibition of the muscle action which lasts for several hours. This tends to increase the tonus of the muscle in the third stage.

There was no loss of a mother or child in any of the normal cases. It is relatively safe to use thymophysine in primiparae with the head engaged as in these cases the measurements are normal except in certain flat, rachitic types of pelves.

The action of thymophysine is never so great that a sedative is needed to quiet the greater contractions.

In some cases the fetal heart tones became slower, but when the membranes are intact there is little danger of asphyxia of the child. When the membranes are ruptured it is necessary to watch the fetal heart tones closely. We had slight asphyxia in only one case.

In some cases of multiparae thymophysine has been given when the cervix was opened one to two fingers. There followed pains for an hour or so with no progress of labor even with a repetition of the thymophysine. In these cases the patients had not been in actual labor, and therefore, the effects of the thymophysine had not been from fatigue of the muscle. This is a mistake which is frequently made in multiparae when the cervix is open one to two fingers in the last part of the pregnancy and false labor pains are common.

We have had good results in toxic goiter and

cardiac cases where the heart must be protected and surgical intervention increases the danger from the standpoint of the anesthesia. In cases of hypertension the blood pressure has been taken before and after giving thymophysine and a drop of ten points is noted. So we have found it valuable in toxic cases.

Thymophysine has been used to great advantage to terminate a long labor which has had to be rested in intervals by morphine. Summary:

1. Thymophysine does have an advantage in shortening normal labors without endangering the life of the mother or the child.

2. In cases complicated by heart or thyroid disease thymophysine is a good aid to shorter labor.

3. Thymophysine is of value in eclampsia.

4. Thymophysine should not be used in contracted pelves. (See Table below.)

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Case No.	Cervix	Position	Delivery	Condition of Perineum	Bleeding	Placenta	Puerperium	Hours of Labor	Time of Delivery after Thymo.	Cond. of Child at Birth	
Primiparae											
145-157-31	? cm.	LOA	Normal	Episiotomy	Slight	Normal	Normal	20 hrs.	1¾ hrs.	Good	
145-178-31	? cm.	ROA	Normal	2nd deg. tear	Moderate	Manual ext.	Normal	7 hrs.	3 hrs.	Good	
145-283-31	? cm.	LOA	Normal	1st deg.tear	Moderate	Normal	Normal	20 hrs.	1 hr.	Good	
145-304-31	3 cm.	LOA	Normal	Episiotomy	Moderate	Normal	Normal	12 hrs.	1¼ hrs.	Good	
145-383-31	6 cm.	LOA	Normal	Normal	Slight	Normal	Normal	11 hrs.	½ hr.	Good	
145-393-31	9 cm.	LOA	Normal	Normal	Slight	Normal	Normal	29 hrs.	1 hr.	Good	
145-594-31	6 cm.	LOA	Normal	Episiotomy	Slight	Retention of Memory	Normal	10 hrs.	4 hrs.	Slight	Asphyxia
145 66-29	4 cm.	LOA	Normal	Episiotomy	Slight	Normal	Normal	18½ hrs.	9 hrs.	Good	
145-488-30	? cm.	LOA	Normal	Episiotomy	Slight	Normal	Normal	? hrs.	1 hr.	Good	
145-400-31	? cm.	LOA	Normal	2nd deg. tear	Moderate	Normal	Normal	22 hrs.	2¼ hrs.	Good	
145-406-31	4 cm.	ROA	Normal	2nd deg. tear	Slight	Normal	Normal	5 hrs.	2½ hrs.	Good	
145-416-31	? cm.	LOA	Normal	Normal	Moderate	Manual Ext.	Normal	9 hrs.	½ hr.	Good	
Multiparae											
145- 22-31	....	LOA	Normal	Normal	Moderate	Normal	Toxic	6 hrs.	2 hrs.	Good	
145- 35-31	3 cm.	LOA	Normal	1st deg. tear	Moderate	Normal	Normal	16 hrs.	2½ hrs.	Good	
145-655-30	5 cm.	LOA	Normal	Normal	Moderate	Normal	Normal	3½ hrs.	½ hr.	Good	
145-141-31	7 cm.	ROP	Normal	Episiotomy	Moderate	Normal	Normal	6 hrs.	½ hr.	Good	
145-195-31	3 cm.	ROA	Normal	Normal	Slight	Normal	Normal	17 hrs.	½ hr.	Good	
145-209-31	7 cm.	ROA	Normal	Normal	Slight	Normal	Normal	10 hrs.	8 hrs.	Good	
145-251-31	7 cm.	ROP	Normal	Normal	Slight	Normal	Normal	5 hrs.	½ hr.	Good	
145-289-31	2 cm.	LOA	Normal	1st deg. tear	Moderate	Normal	Normal	13 hrs.	1 hr.	Good	
145-316-31	1 cm.	LOA	Normal	Episiotomy	Moderate	Normal	Normal	8 hrs.	½ hr.	Good	
145-347-31	1 cm.	LOA	Normal	Normal	Moderate	Normal	Normal	9 hrs.	¼ hr.	Good	
145-387-31	5 cm.	LOA	Normal	2nd deg. tear	Slight	Normal	Normal	6 hrs.	1 hr.	Good	
145-445-30	9 cm.	LOA	Normal	2nd deg. tear	Moderate	Normal	Normal	5 hrs.	½ hr.	Good	
145-349-30	6 cm.	LOA	Normal	Episiotomy	Moderate	Normal	Normal	5 hrs.	½ hr.	Good	
145- 94-31	6 cm.	LOP	Normal	1st deg. tear	Slight	Normal	Thrombophlebitis	20 hrs.	6½ hrs.	Good	
145-508-29	4 cm.	LOA	Normal	Episiotomy	Slight	Normal	Normal	5½ hrs.	2½ hrs.	Good	
145-610-29	1 cm.	LOA	Normal	Normal	Slight	Normal	Normal	6 hrs.	1½ hrs.	Good	
145-206-30	2 cm.	ROA	Normal	Normal	Slight	Normal	Normal	3 hrs.	1 hr.	Good	
145-351-30	4 cm.	ROA	Normal	Normal	Moderate	Normal	Normal	30 hrs.	44 hrs.	Good	
145-387-30	2 cm.	ROA	Normal	Normal	Moderate	Normal	Normal	11 hrs.	2½ hrs.	Good	
145-419-30	3 cm.	LOA	Normal	2nd deg. tear	Moderate	Normal	Normal	23 hrs.	14 hrs.	Good	
145-645-30	1 cm.	....	Normal	Normal	Slight	Normal	Normal	1½ hrs.	½ hr.	Good	
145-411-31	5 cm.	ROA	Normal	Normal	Slight	Normal	Normal	24 hrs.	12 hrs.	Good	
145-415-31	....	ROA	Normal	Normal	Slight	Normal	Normal	21 hrs.	1 hr.	Good	
145-437-31	4 cm.	ROA	Normal	Normal	Slight	Normal	Normal	6 hrs.	1½hrs.	Good	

THE COMBINED TRYPAFLAVINE QUARTZ-LIGHT TREATMENT OF PSORIASIS VULGARIS—A REPORT OF 111 CASES THUS TREATED*

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The acridine dyes are derivatives of acridine, a base found in coal tar. One of these derivatives (diamino-methyl-acridine-chloride) was found by Ehrlich to possess notable therapeutic effects in trypanosome infections and on this account he called it *Trypaflavine*. The English investigators who conducted clinical and bacteriological studies of this substance called it *Acriflavine*. Trypaflavine ("neutral" acriflavine, acriflavine base) is actively antiseptic and has been extensively used to check infection of wounds and mucous membranes, and as a urinary antiseptic.

*From the Dermatological Department Wilhelminenspital, Vienna, Austria, Professor Oppenheim, Director.

Besides these antiseptic properties the acridine dyes are also strong light sensitizers. These dyes when used intravenously photosensitize the tissues to the ultra violet rays.

In 1926 Jausion, Vaucet and Diot[1] described the intravenous use of trypaflavine (they called it Gonacrin) in the treatment of specific urethritis of the male. Jausion noticed that the patients thus treated developed on the exposed parts of the body, such as face and hands, areas of ery-



Fig. 1. Generalized psoriasis guttate and nummular lesions.

thema solare. The degree of the erythema varied with the duration of the exposure and with the intensity of the rays of the sun. This phenomenon Jausion called "Coup de Soleil Acridinique" and attributed it to the photosensitizing property of the acridine dyes.

To prevent the erythema solare Jausion[2] recommends the administration of resorcin ¼ gram (0.25) doses. Resorcin acts as a light desensitizer. But as resorcin in these doses often causes gastric and intestinal disturbances, Jausion recommended the use of "Brenzkatechin" (Brenzcain-Guaiacolbenzyl ester) intravenously.

Oppenheim and Freund noticed that the patients who were treated by the intravenous trypaflavine method developed on the erythema solare areas a dark brown hyperpigmentation resembling the melanosis of Riehl. Not only were these hyperpigmentation areas noticed on the exposed parts of the body but also over the entire body and even on the mucous membranes of the mouth.

Oppenheim suggested that the acridine dyes apparently not only sensitize the skin to the rays of the sun, but also influence the pigment metabolism. He suggested to utilize the photosensitizing and pigment producing properties of trypaflavine in the treatment of those skin diseases where ultra violet rays are indicated.

Following Oppenheim's[3] suggestion and demonstration at the meeting of the Vienna Dermatological Society, of cases of psoriasis vulgaris treated by the combined trypaflavine and ultra violet radiation method, reports appeared in the literature on the use of this method in lupus vulgaris (Kerl,[4]† Konrad[5]) acne vulgaris, pemphigus vulgaris, and psoriasis vulgaris (Hecht[6]). Of the above skin diseases only psoriasis vulgaris[7] seems to respond well to this form of therapy. A study of results in 111 cases of psoriasis vulgaris patients thus treated is here presented.

Table 1

Total number of patients treated	111
Number of patients healed	37
Number of patients improved	60
Number of patients not improved	14
Age of youngest patients (in years)	11
Age of oldest patient (in years)	52

Table 2

Average number of days treated	37.9
Average number of injections	10.8
Maximum number of injections	26

Table 3

Complications

Tachycardia	4
Fever 37.5 to 39	9
Nausea	4
Vomiting	5
Collapse	1
Headache	5
Albuminuria	3
Paravenous infiltration	1

One hundred and eleven cases of psoriasis vulgaris—acute, subacute and chronic, were treated by the intravenous administration of aqueous trypaflavine solution and by general body radiation with the air cooled Quartz lamp. Of the one hundred and eleven (111) patients, sixty-five (65) were males and forty-five (45) were females. The age of the youngest patient treated was eleven and that of the oldest fifty-two. Among these patients were cases of acute psoriasis in the eruptive stage, subacute psoriasis, as well as chronic psoriasis with inveterate patches.

†Who was the first to recommend it for the treatment of lupus vulgaris.

Thirty-seven patients were healed of all lesions by use of this therapy alone. Sixty patients were markedly improved, but at the end of the treatment some inveterate lesions remained that did not respond to this therapy.

Among other patients that improved without complete healing were also those who after a few injections showed intolerance to the drug. Fourteen patients were not benefited by the injections and had to be treated by other methods.

The average duration of the treatment was 37.9 days. The average number of injections of trypaflavine was 10.8 and the maximum number was 26. The strength of trypaflavine used at first was 1% aqueous solution, but at present a 0.5% aqueous solution is used and is equally efficacious.

Of the complications, nausea, vomiting, headache and fever were the most frequent. Fever 37.5 to 39 C. (99.5 to 102.2 F.) was observed in 9 cases. It occurs a few hours after the injection and does not last long. Headache was observed in those patients who exposed themselves to strong sunlight. Hence the patients should be warned against exposing themselves to strong sunlight or this therapy should not be used during the hot summer months. Nausea and vomiting was observed immediately after the injections and was transient. Albuminuria appeared in three patients after the 10th, 12th and 17th injection respectively but disappeared when the injections were discontinued. Tachycardia in four cases, and one case of collapse, were perhaps on a nervous basis, as they were noticed only in neurotic women. The most serious complication or mishap is the paravenous infiltration. The resulting pain is intense; the severe necrosis that ensues takes many weeks to heal. One should be sure of his intravenous technic, before attempting a trypaflavine injection.

Technic: The technic is simple. On the first day the patient receives 5 c. c. of 0.5% aqueous trypaflavine solution intravenously. Fifteen minutes later the patient is placed under an air cooled Quartz lamp, his entire body is exposed to the light for about 20 seconds, at a distance of 40 cen. (15½ in.). The body radiations are then given in gradually increasing doses, always below the erythema dose. The durations of the exposures will naturally vary according to the type and age of the burner, distance, type and texture of the patient's skin. On the third day the patient receives 10 c. c. of a 0.5% trypaflavine solution intravenously followed by ultra violet radiations. The injections are given *three times* a week. In all, twenty or a maximum of twenty-six injections are given. The same care and asepsis should be used as in injecting neosalvarsan. If at any time during the course of treatment signs or symptoms of intolerance to the drug appear, the injections should be discontinued.

Besides the trypaflavine and daily ultra violet radiations the patient takes a daily lukewarm



Fig. 2. Same patient following 12 intravenous injections of 10 c.c. ½ of 1% Trypaflavine.

bath to remove the scales and applies to the lesion 5% boric acid ointment. The patients under this therapy turn dark brown—resemble Moors—but they prefer this method since it avoids the use of staining and irritating ointments. This therapy like all other treatments of psoriasis, does not ensure permanent relief. Recurrences are not prevented, but they may be retarded in patients who pigment well.

Conclusions:

1. A method of treating psoriasis vulgaris by trypaflavine and ultra violet rays is described.
2. The results of the treatment of 111 patients are discussed.
3. Attention was called to the complications

and contra indications of using this form of therapy, especially during the hot summer months.

4. It is not claimed that this method of therapy is specific, but that it is a valuable addition to the armamentarium of the treatment of psoriasis vulgaris.

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AGRANULOCYTIC ANGINA*

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In the symptom complex called agranulocytic angina, the etiology has for some time been a matter of considerable conjecture.

Is it a specific infection with a definite clinical picture or is it an extreme form of leukopenia and what is its relation to the other leucocytic dyscrasias?

Some authors believe that the infection, present in nearly all of these cases of agranulocytosis, is secondary to a primary bone marrow depression of unknown etiology.

Other observers, of equal rank, think that agranulocytosis is a peculiar selective type of bone marrow reaction to a great variety of toxic agents.

The following case presents some of these questions as to time of onset:

Mr. H., aged 52 years, was first seen by me on Feb. 20, 1932, at his home with the following complaint. About January 20 he had what was thought to be an attack of influenza which kept him in bed a week and was characterized by chill, fever, aches, etc., but no pain nor local symptoms. He had two similar attacks during the next two weeks of a milder nature, which the attending physician thought to be slight relapses of the first attack. A blood count made on Feb. 18 was as follows: Red cells, five million, haemoglobin 83%, white cells 9400 with 57% neutrophiles and 43% lymphocytes.

I first saw him on Feb. 19 at which time he had a chill, fever with a temperature of 104 and what appeared to be an acute follicular tonsillitis but having more edema than is usual in these conditions and making it hard to rule out a peritonsillar abscess.

He was seen daily until Feb. 27 at which time he was brought into the hospital because of no improvement while at home, the temperature remaining at about 104, the throat remaining about the same and his general condition much weaker.

The following notations were made on examination:

Nose: Left ala inflamed, left nostril congested and obstructed.

Mouth: Lips dry and coated with a thick white material. Herpes on upper lip. Tongue thickly coated and white. Teeth poor, gums about teeth were ulcerated and covered in places with a white material. Mucous membrane of mouth and throat swollen and studded in places with round or oval white spots and areas of ulcerating mucous membrane. Tonsils were enlarged and covered with thick white material. Breath has foul odor. Expectorates a very thick brownish green pus-like material.

Glands on neck palpable, with one on each side of neck the size of hazel nut.

Chest: Respirations increased. Breath sounds roughened, coarse rales heard over both lungs, especially over the right and more so over its posterior surface. No crepitant nor subcrepitant rales were noted.

The rest of the examination showed nothing of special interest.

Laboratory: Feb. 27, Reds 4,750,000; haemoglobin 77%; white cells 1600; neutrophiles 1%; lymphocytes 99%. Wassermann negative. Throat smears showed many fusiform bacilli and spirilli. Many cultures during the past week showed no diphtheria bacilli.

Notes. On this day he was given .45 gm. neoarsphenamine intravenously and much water by mouth.

Feb. 28. White count was 1500 and no neutrophiles were present.

Notes. On this day he was given 500 c.c. blood by transfusion and also 100 c.c. normal salt solution by hypodermoclysis, and use of oxygen tent was started.

Feb. 29. White count was 300 and no neutrophiles were found. Red count was 4,799,000. Hemoglobin was 90%. Urine showed trace albumin, few blood cells, no casts.

Notes. On this day he was given 1000 c. c. normal salt solution hypodermoclysis and also irradiated over the long bones and spleen.

The temperature remained high during his three days in the hospital. Toxemia increased and he became comatose and died on the evening of Feb. 29.

Comment. The above case offers several possibilities as to etiology.

*From the Ravenswood Hospital.

He had been sick a month before I saw him with recurring fever. Was this the first stage of his terminal illness or was it coincidental especially as his blood picture was normal nine days before death? Was his severe mouth and throat infection the cause of the destruction of his granulocytes or was the angina due to an extremely low resistance to infection because of his agranulocytosis?

Perhaps the characteristic changes in the marrow of long bones is the answer.

DECENT CITIZENS IN POLITICS

The great majority of the fine, open-minded, honest products of our schools and colleges refuse to have anything to do with the political life of our country. They shun politics as if it were a plague. Decent people, they argue, will not walk with politics; she is a notorious lady, too easy to meet and too easy to compromise. Let her walk the streets, they say, while respectable citizens remain at home safe with their cloistered virtues, except for an occasional rendezvous. Far better it would be if these virtuous citizens would investigate and attack the conditions which have brought about the lady's plight. They would discover that the principal cause was their own political disinterest. If politics were courted by better men, she would have better standards.—Dr. Robert G. Sproul, Pres., Univ. of California.

DERMATITIS MEDICAMENTOSA DUE TO EPHEDRINE

Samuel Ayers, Jr., and Nelson Paul Anderson, Los Angeles (*Journal A. M. A.*, Aug. 15, 1931), call attention to some of the cutaneous reactions produced by ephedrine and present some experiments dealing with attempted passive transfer of sensitivity of this drug. They present two cases of dermatitis medicamentosa due to ephedrine, in which there were both a local dermatitis at the point of application and a more or less generalized eruption, erythematous and purpuric in case 1, and erythematous and edematous in case 2. Emphasis is laid on the fact that knowledge that ephedrine can produce such cutaneous manifestations may be of value in determining the cause of obscure eruptions about the nose, face and elsewhere. The authors were not able to demonstrate passive transfer in two cases of marked hypersensitivity to ephedrine.

Society Proceedings

COOK COUNTY

CHICAGO SOCIETY OF INDUSTRIAL MEDICINE AND SURGERY

Meeting, Wednesday, April 6, 1932

"Shoulder Injuries with Special Reference to Rupture of Supraspinatus Tendon". Ernest A. Codman, Boston
Discussion. Edwin W. Ryerson and Dallas B. Phemister

THE CHICAGO TUBERCULOSIS SOCIETY AND THE CHICAGO MEDICAL SOCIETY

Joint Meeting, Wednesday, April 20, 1932

"The Discovery of the Tubercle Bacillus".....
.....Allen K. Krause, Tucson, Arizona
J. R. Head, President,
Chicago Tuberculosis Society.
Minas Joannides, Secretary,
Chicago Tuberculosis Society.

CHICAGO MEDICAL SOCIETY

Regular Meeting, Wednesday, April 27, 1932

Social Problem of Economics
"Economic Depression in the Practice of Medicine"
.....Arthur T. Holbrook, Milwaukee, Wis.
"Health Insurance" .....
Mr. Nathan Sinai, Dept. Public Health, University of Michigan.
"Current Trends in Medical Practice".....
R. G. Leland, Director, Bureau of Medical Economics, American Medical Association.
"Medical Advertising and Medical Publicity".....
Morris Fishbein, Editor of the Journal, American Medical Association.
Discussion: Herman L. Kretschmer, Malcolm T. MacEachern, Charles J. Whalen, Wilber E. Post.

LEE COUNTY

The big joint meeting of the Lee County Medical Society and the Whiteside-Lee County Dental Society which was held at the Dixon state hospital April 14, was probably the largest county meeting of professional men that has ever been held in the middle west, for it was attended by over 425 guests. This great meeting has come to be an annual affair, for Dr. Warren G. Murray, managing officer of the hospital, extends an invitation each year to the professional men to conduct their meeting at the state institution and he and his staff put forth a great deal of time and effort to insure its success. This year eleven hundred invitations were sent out, covering the physicians and dentists in northern Illinois, eastern Iowa and southern Wisconsin. Many of the guests came early in the afternoon in order to visit this interesting institution and they were conducted through it by the staff members. At 6 P. M. the guests began to assemble in the big auditorium where they were entertained by a band concert.

Had Fine Banquet

Jack Watters, the chef at the hospital, planned, prepared and directed the serving of a delicious banquet, and this time he exceeded all previous efforts. The doctors talk about these banquets at all subsequent meetings for months afterward. The tables were beautifully decorated and arrangements were made to seat 410 and every seat was filled. This meal was served by about forty young ladies in a most efficient manner and the last course, which consisted of boxes of candy for the ladies and cigars for the gentlemen, ended a

meal that made every visitor praise the work of those who had prepared and served it.

Following the banquet, Dr. A. F. Moore, President of Lee County Medical Society, opened the meeting and introduced Dr. Murray who was the host of this big group of doctors and nurses. Dr. Gordon F. New of the Mayo clinic was introduced and gave a most interesting and instructive talk on "The Developments in Reconstructive Surgery of the Face and Neck." This talk was illustrated by lantern slides thrown on a very large screen by a new type of lantern operated by J. A. Dauntler. These pictures, illustrating the work done in reconstructing noses, ears and mouths which had been damaged or destroyed by dreadful accidents, as well as some cases of congenital malformations, were amazing, and showed what wonderful strides have been made in this branch of surgery. Dr. Murray took charge of the meeting and after assuring the guests of his pleasure in being able to entertain such a large number of visitors from all over this part of the country, introduced a number of his staff members who, presented a most interesting clinic.

Local Cases Shown

Dr. H. E. Marselus, assistant superintendent, talked on the "present legal status of encephalitis cases." These are cases of the so-called sleeping sickness which often follow severe cases of influenza and such cases are now committed, by the courts, to the Dixon state hospital. Dr. J. P. Kranowski described and demonstrated a rare and very interesting case of what is known as "Frohlich's Syndrome." Dr. C. F. Powell described and showed six cases of "Mongolism" among which was a colored boy. He called attention to the characteristic shape of the head in these cases which rarely are seen outside such institutions. Dr. A. Tarnavsky showed three very rare cases, one a skin case with a peculiar eruption and deformation of the hands and feet and another case whose symptoms, including total blindness was due to a tumor in the back part of the brain. Dr. A. J. Graff briefly exhibited two very interesting cases of "Cretinism" which is primarily due to a deficiency of the thyroid gland from birth. These cases are very common in parts of Switzerland and New Zealand but are not common in this part of the world.

Chicago Specialist

Dr. W. J. Palmer of Sterling, President of Lee-Whiteside County Dental Society, asked Dr. Z. W. Moss who is a personal friend and former colleague during their war service to introduce Dr. William H. G. Logan of Chicago, who was the principal speaker of the evening. Dr. Logan's subject was "The Diagnosis and Treatment of the More Common Lesions and Abnormalties of the Face, Mouth and Jaws, that are of Interest to the Members of the Dental and Medical Professions." His talk was entirely illustrated by some remarkably fine pictures, beginning with infected teeth, then cancer of the tongue and lips and finally the many abnormalties such as hare lip and cleft palate. Dr. Logan has been lecturing throughout this country and Europe for many years and he has an exceptionally clever manner of illustrating the work that has been done by both the medical and dental professions in his chosen line of work, that of corrective surgery. Dr. C. L. Daniels of Aurora, Ill., superintendent of the dental clinics of the Illinois state institutions, gave a very interesting description of the work being done at the various state institutions to combat "Vincent's Angina," commonly known as trench mouth and with the aid of Dr. H. C. Hart of the Dixon state hospital, he demonstrated a number of these interesting cases and gave the visiting doctors a complete description of the method of treatment used.

The meeting adjourned at 11 P. M. with a rising vote of thanks to Dr. Murray and his staff and to the speakers of the evening for having furnished what was, without doubt, the most interesting meeting that has ever been held in this part of the state.

Marriages

Charles B. Gawne, Oak Park, Ill., to Miss Loretta Josephine Wetzel of Chicago, March 29.

Nathan S. Zeitlin to Miss Rosalyn Rosenthal, both of Chicago, April 3.

Personals

Dr. S. Leon Wilson, Chicago, read papers before the John A. Andrews Clinical Society at Tuskegee, Alabama, April 6-7 on "Trichomonas Vaginalis Vaginitis" and "Prenatal Care."

Mr. John A. Maloney, assistant to the director of the Museum of Science and Industry (founded by Julius Rosenwald) gave an illustrated lecture at the University of Illinois College of Medicine, April 6, on "The Museum of Science and Industry."

Dr. Hugo O. Deuss, Chicago, spoke at the Jackson County Medical Society at Carbondale, Ill., April 21, on "The Use of Iodized Oils in Bronchitis and Bronchiectasis."

Dean Arthur H. Daniels of the Graduate School, University of Illinois, Urbana, addressed the Medical History Club at the College of Medicine, on March 30—subject, "Leibnitz."

The March meeting of the Chicago Society of Allergy was addressed by Dr. Paul R. Cannon on "Studies in Tissue Immunity"; and by Dr. Wm. L. Beecher on "Allergy as a Factor in Ulcers of the Digestive Tract."

The Chicago Pathological Society was addressed, April 11, among others, by Drs. Israel

Davidsohn and Jacob M. Mora on "Appendicitis in Measles."

Doctor James H. Hutton has been appointed Consulting Endocrinologist to the Hospitals of the Department of Public Welfare of Illinois.

Dr. Frank M. Phifer, Chicago, addressed the Will-Grundy County Medical Society at Joliet, March 30, on "Phases of the Prostatic Problem."

Dr. Walter L. Bierring, Des Moines, Iowa, discussed "Coronary Artery Disease" before the McLean County Medical Society, Bloomington, March 15.

The Will-Grundy County Medical Society was addressed, April 20, in Joliet by Dr. James T. Case, Chicago, on "Chronic Intestinal Obstruction."

Dr. Ernest A. Codman, Boston, addressed the Chicago Society of Industrial Medicine and Surgery, April 6, on "Shoulder Injuries with Special Reference to Rupture of Supraspinatus Tendon."

Dr. Clifford U. Collins, Peoria, talked on the diagnosis and treatment of cancer of the abdomen and pelvis before the Kane County Medical Society, April 6.

Dr. Samuel M. Feinberg, Chicago, addressed the Kankakee County Medical Society, Kankakee, April 14, on "Allergy of the Respiratory Tract."

Dr. Charles S. Williamson, Chicago, addressed the Knox County Medical Society, April 19, on "Pericarditis—the Cardiac Condition Most Frequently Overlooked."

The Iroquois County Medical Society was addressed March 31 by Dr. Jacob D. Willems, Chicago, on "Early and Late Treatment of Deep Burns."

A symposium on medicolegal aspects of criminology constituted the meeting of the Chicago Academy of Criminology, April 14; the speakers were Drs. H. Douglas Singer and Oscar T. Schultz.

Dr. Donald C. Balfour, Rochester, Minn., delivered the Mayo Lecture in Surgery, April 19, at the John B. Murphy Memorial, 50 East Erie street. Dr. Balfour will speak on "The Duodenum and Its Diseases."

The Chicago Surgical Society was addressed April 1 among others, by Drs. Waltman Walters, Rochester, Minn., on "Problems in the Treatment of Obstructive Lesions of the Common Bile Duct."

Drs. Daniel H. Levinthal, Arthur H. Conley and Marcus H. Hobart were among the speakers before the Chicago Orthopedic Club, April 8; their respective subjects were "Fractures of Both Bones of Forearm in Lower Third in Children," "Repair of Crucial Ligaments," and "Ulnar Nerve Injury."

Dr. Hedwig S. Kuhn, Hammond, Ind., talked on "Early Treatment of Strabismus" and "The Phorias and Their Treatment" before the Chicago Council of Medical Women," April 1. Dr. Agnes Beulah Cushman spoke on "Cataract Work in India in 1932."

Dr. William E. Weighton, St. Louis, addressed the St. Clair County Medical Society, April 6, at Belleville, on "Evolution of Spinal Cord Surgery," and Dr. William A. Thomas, Chicago, April 7, on "Dangers of Excessive Sodium Chloride Administration After Operations."

News Notes

—The Franklin County Medical Society sponsored a tuberculosis clinic, March 24; the speakers were Drs. Alfred Goldman and Duff S. Allen, St. Louis, who discussed "Medical Phases of Pulmonary Tuberculosis" and "Tuberculosis from the Surgical Point of View," respectively.

—The Chicago Laryngological and Otological Society was addressed, April 4, by Dr. Max Cutler on "Indications and Limitations of Radiotherapy in Cancer of the Tonsil, Nasopharynx and Larynx"; Dr. Austin A. Hayden gave a moving picture demonstration of "Management of Acute Mastoiditis."

—During 1931 there were 19,813 cases of syphilis reported to the state department of public health, making an average of one case for every six births recorded in that year. Of all tests made in the diagnostic laboratories of the department, 71 per cent. or 92,792 tests, related to syphilis. About one in five of the tests was positive.

—Papers presented before the Chicago Gynecological Society, April 15, were given by Drs. Frederick H. Falls on "Nonfatal Welch Bacillus

Puerperal Infection"; Abraham F. Lash, "Puerperal Fever—B. Welchii Fatal Types," and William C. Danforth and James T. Case, "Entero-Uterine Fistula with a Review of the Literature and Report of a Case Studied Radiologically."

—The first Joseph A. Capps Prize for medical research of the Institute of Medicine of Chicago has been awarded to Dr. Warren B. Matthews, assistant resident in surgery at the University of Chicago Clinics, for his paper on "Studies on the Etiology of Gastric and Duodenal Ulcer." The Joseph A. Capps Prize of $500, established by an anonymous donor, is awarded in alternate years for the most meritorious medical research by a graduate of a medical school in Chicago completed within two years after graduation.

Pamphlets distributed, April 3, in Catholic churches announced the establishment of diphtheria prevention stations in the parochial schools. In cooperation with the city department of health, arrangements have been made to give toxoid to pupils whose parents cannot afford to have a private physician administer it. Dr. Louis D. Moorhead, dean and professor of surgery, Loyola University Medical School, was named representative in charge of this antidiphtheria campaign. He has placed Dr. James V. Russell in active charge.

The Illinois Tuberculosis Association held its annual meeting in Danville, April 25, with Dr. Charles E. Wilkinson presiding. Dr. Iago Gladston, New York, addressed the session on "Looking Into the Future," and Dr. Alfred Henry, president, National Tuberculosis Association, "Our Job Now." Other speakers include M. A. Auerbach, executive secretary, Indiana Tuberculosis Association, "Place of the Lay Organization in the Health Education Program," and Dr. John R. Neal, Springfield, president-elect, Illinois State Medical Society, "The Medical Society's Responsibility in the Field of Health Education."

—Dr. Nathan Porter Colwell, for many years secretary of the Council on Medical Education and Hospitals of the American Medical Association, was presented with an engrossed testimonial at a recent luncheon of the Federation of State Medical Boards of the United States, in recognition of his services to the federation during the twenty years of its existence. Dr. Colwell was a member of the committee on organization of the federation and proposed its present name, which was adopted at the first meeting, Feb. 29, 1912. With the first issue of the *Federation Bulletin,* in April, 1915, he became the managing editor. He recently retired as secretary of the Council on Medical Education and Hospitals.

—Drs. Orson B. Spencer and Benjamin F. Uran, Kankakee, were guests of honor at a dinner, March 29, given under the auspices of the Kankakee Chamber of Commerce, and attended by members of the Kankakee County Medical Society and their wives. Testimonials of esteem were presented to the two physicians by the manager of the chamber of commerce. Among the speakers was Dr. Shirley W. Lane, president of the county medical society. Dr. Edwin S. Hamilton, in behalf of the society, presented a purse of gold to each of the guests of honor. Dr. Spencer, who is 87 years of age, has been in practice in Kankakee sixty-three years, and Dr. Uran, 84 years of age, has practiced in that city sixty-one years.

—The Illinois, Indiana and Wisconsin hospital associations met jointly, April 27, at the Hotel Sherman. Among the speakers were Albert Stump, Indianapolis, on "Poor Relief Laws of Indiana"; J. Dewey Lutes, Chicago; Dr. Edward T. Thompson, Indianapolis, and Dr. Robin C. Buerki, Madison, "Report of Economic Surveys of Hospital Situation—Illinois, Indiana, and Wisconsin"; Dr. Fred G. Carter, St. Paul, "Should General Hospitals Extend Their Services to Mental, Tuberculosis and Contagious Patients?" Paul H. Fesler, Chicago, president, American Hospital Association, will speak at the banquet on "What the American Hospital Association Is Doing for You." Mr. Charles A. Wordell, president of the Chicago Hospital Association, was toastmaster.

—Endocrine Brochures are published by The Harrower Laboratory, Inc., Glendale, Calif., and any one, or all, of the series will be sent gratis (as published) to any physician on request. The first of this series entitled "The Regulation of the Menstrual Endocrine Control" deals with its subject in a comprehensive and easy-to-read manner. It is particularly timely in view of the recent developments with the anterior pituitary and its important role in the control of the gonads. Others of this series now ready are No. 2, "The Essentially Endocrine Types of Obesity

in Women," No. 3, "Endocrine Problems in Pediatric Practice," No. 4, "Some Notes on the Four Forms of High Blood-Pressure," No. 5, "The Male Climacteric and related Conditions," No. 6, "Sympathetic Sedation in Hyperthyroidism."

The April meeting of the Chicago Society of Allergy was addressed by Prof. Preston Kyes on "Reactions Provoked by Serum Administration."

Officers for the ensuing year were elected as follows: President, Dr. Leon Unger; Vice Pres., Dr. I. Pilot. Sec.-Treas., Dr. M. R. Lichtenstein. The executive committee will consist of Drs. L. Unger, M. R. Lichtenstein, H. Huber, S. Feinberg, and T. Nelson.

Deaths

William N. Clark, Grayslake, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1896; aged 62; died, March 17, in the Lake County Hospital, Waukegan.

Henry Ashburn Davis, Cairo, Ill.; Bellevue Hospital Medical College, New York, 1896; member of the Illinois State Medical Society; aged 60; died suddenly in March, at Cayce, Ky., of heart disease.

William W. Deatherage, Auburn, Ill.; Barnes Medical College, St. Louis, 1894; aged 68; died, March 14, in St. John's Hospital, Springfield, as the result of injuries received in a fall.

Carl J. Elion, Galva, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1893; aged 83; died, March 17, of cardiovascular renal disease.

Otto Tiger Freer, Chicago; Rush Medical College, 1879; a noted laryngologist; member of Illinois State Medical Society and many other scientific societies; a Fellow, A. M. A. and Fellow of Royal Society of Medicine of London; an organizer of Henrotin Hospital; aged 75; died, April 21, at Henrotin Hospital, of chronic myocarditis.

Dana Howard Garen, Chicago; Northwestern University Medical School, Chicago, 1892; member of the Illinois State Medical Society; on the staff of the Englewood Hospital; aged 64; died, March 22, of angina pectoris.

Goldye L. Hoffman, Chicago; University of Illinois, College of Medicine, 1915; a member of Illinois State Medical Society; president of Chicago Medical Woman's Club; associate professor of gynecology at the University of Illinois; aged 36; died, April 17, of pneumonia.

Granville A. Hulett, Springfield, Ill.; Chicago Medical College, 1884; member of the Illinois State Medical Society; formerly a druggist; aged 72; died, March 4, of heart disease.

John H. Imme, Ottawa, Ill.; Eclectic Medical College, Cincinnati, 1880; aged 76; a practitioner in Ottawa for 40 years previous to retirement three years ago; died, April 1.

George C. Lewis, Fairbury, Ill.; Bellevue Hospital Medical College, New York, 1883; past president of the Livingston County Medical Society; aged 76; died, February 11, of cerebral hemorrhage.

Felix Long, Enfield, Ill.; American Medical College, St. Louis, 1880; aged 73; died, February 29, of carbolic acid poisoning.

John Leonard Manning, Chicago; Hahnemann Medical College and Hospital, Chicago, 1907; a Fellow, A. M. A.; formerly professor of obstetrics at his alma mater; served during the World War; aged 50; died, February 28, of chronic myocarditis.

John McLean, Chicago; Jefferson Medical College, 1881; a practitioner in St. Paul, previous to retirement 8 years ago; aged 77; died, April 2, of chronic myocarditis and arteriosclerosis.

Buell Sumner Rogers, Chicago; Rush Medical College, 1892; a retired Lieutenant Colonel, Illinois National Guard; aged 68; died, April 13, of chronic nephritis and chronic myocarditis.

Margaret E. Simmons, Chicago; Woman's Medical College, Chicago, 1891; aged 79; died, March 4, in the Eastern Star Sanitarium of Illinois, Macon, of arteriosclerosis following a fracture of the hip.

John Edward Stanton, Chicago; Rush Medical College, 1899; a captain in the medical corps in the World War; first commander of North Shore Post, American Legion; a staff member of St. Anne's Hospital; aged 59; died, April 16, at St. Anne's Hospital, of chronic myocarditis.

Walter B. Stewart, Joliet, Ill.; University of Illinois College of Medicine, 1888; president of Will County chapter of the Red Cross, banker and corporation director; aged 66; died, April 15, of myocarditis.

Edward Henry Tegtmeier, Millstadt, Ill.; St. Louis College of Physicians and Surgeons, 1901; a Fellow, A. M. A.; district health officer of the state department of public health; aged 53; died, March 9, in St. Elizabeth's Hospital, Bellevue, of septicemia due to an infection in his mouth.

George W. Walbright, Metropolis, Ill.; Louisville (Ky.) Medical College, 1890; a Fellow, A. M. A.; aged 67; died, March 20, of heart disease.

Thomas J. Walsh, Chicago; Rush Medical College, 1896; aged 55; died, April 21, at Alexian Brothers Hospital, of coronary thrombosis.

Lucius Henry P. Zeuch, Chicago; Harvey Medical College, Chicago, 1902; a Fellow, A. M. A.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1911; for many years on the staff of the Norwegian-American Hospital; author of "History of Medical Practice in Illinois"; aged 57; died, March 20, of brain tumor.

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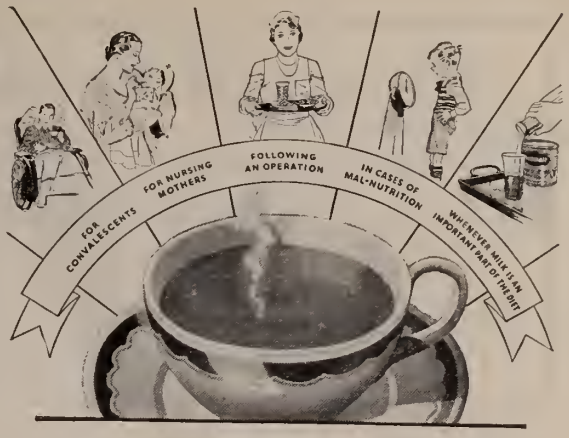
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Editorials

THE 1932 ANNUAL MEETING

The 1932 annual meeting held in Springfield, May 17-19th., will go down in history as one of the most successful meetings the Society has ever held. Everything that could have been arranged for the comfort of the members and guests at the meeting, was given careful consideration by the Committee on Arrangements.

The Secretaries' Conference held on Tuesday morning, was unusually well attended, and the program was an excellent one. This meeting is increasing each year in popularity, and the many secretaries of the component societies participated in the discussions of the highly interesting papers given at the conference.

The Joint Session held on Tuesday afternoon, with an all invited guest program was well attended, and excellent papers were presented by our guests. Dr. E. H. Cary, President of the American Medical Association, Dallas, Texas, gave the principal address at the opening meeting on Tuesday evening, which was well attended. Dr. Cary gave one of his interesting talks which was of interest to the medical profession, as well as to the many lay visitors present.

Throughout the entire meeting, the programs were carried out as planned, and it was the general opinion of all present that the Society at an annual meeting, has never had a better balanced program than at the Springfield meeting.

The House of delegates held the usual two meetings, on Tuesday afternoon and on Thursday morning, and was well attended by representative delegates from most component societies. The President, R. R. Ferguson, presided at the meetings of the House, in his usual efficient manner, and much work was transacted by this Legislative Body of the Illinois State Medical Society.

The President's dinner, on Wednesday eve-

ning, was well arranged, and well attended. The dinner held at the Abraham Lincoln Hotel, was a most enjoyable function. There were no speeches at the dinner, as has been the custom in former years, and it was followed by the President's Dance, and many tables playing bridge.

The exhibits were well arranged, and highly interesting. They were also well attended throughout the entire meeting. All sessions and Section meetings were held in the same buildings which housed the exhibits, which is a most desirable arrangement.

The Mayor of Springfield, the city police department, committee on arrangements, with the general chairman, Don Deal, the Ladies' Entertainment Committee, the Chamber of Commerce, and the hotels, were all included in a resolution unanimously passed at the closing meeting of the House of Delegates, in a generous vote of thanks for their assistance in making everyone feel welcome at the meeting.

Following the closing meeting of the House of Delegates, the President-elect, John R. Neal, was inducted into the office of President, by the retiring President, Dr. Ferguson. Many members of the medical profession of Springfield, and groups from other organizations were present to pay tribute to their fellow member and townsman, Dr. Neal.

The Peoria Medical Society extended an invitation to the House of Delegates for the 1933 meeting, which matter was left to the Council following an investigation of the Peoria facilities.

The following were elected by the House of Delegates:

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2nd Vice-President, E. C. Wilkinson, Danville.
Secretary, Harold M. Camp, Monmouth.
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The House of Delegates voted to create a new Councilor District to be known as the 11th District, composed of the following counties, DuPage, Kendall, Will, Grundy, Kankakee, Ford and Iroquois. Lake County, formerly in the 3rd Councilor District, was placed in the 1st District.

It was the general opinion of those present that the 1932 annual meeting was one of the most successful meetings, from every standpoint, that the Illinois State Medical Society has yet had.

DOCTOR SLOAN APPOINTED A MEMBER OF THE JUDICIAL COUNCIL OF THE A. M. A.

At the New Orleans meeting of the American Medical Association last month Dr. E. P. Sloan of Bloomington was appointed a member of the judicial council by Dr. E .H. Cary, President of the American Medical Association.

Dr. Sloan is a past president of the Illinois State Medical Society. For several years he has served as a delegate from Illinois to the American Medical Association. In these and in many other capacities Dr. Sloan has served his profession ably and well. Dr. Sloan is a thorough exponent of the theory that the practice of medicine should be directed as well as practiced by the physicians instead of being directed or practiced by welfare workers, nurses, opportunists, day dreamers or medico-politico tight rope walkers.

Dr. Sloan is in touch and in sympathy with the aims and needs of the profession. He is one of the ablest men in the medical profession for the position of member of the judicial council. We bespeak for Dr. Sloan as a member of the judicial council a popular and successful administration of the affairs of the American Medical Association.

President Cary is to be congratulated upon this appointment of Dr. Sloan's. This is a delegation of power to hands and brain trained to its use and incapable of its abuse.

MRS. DOCTOR T. O. FREEMAN, CANDIDATE FOR TRUSTEE OF THE UNIVERSITY OF ILLINOIS

Mrs. Nellie V. Freeman, wife of Dr. T. O. Freeman, Mattoon, Illinois, at the recent Democratic state convention was nominated as a candidate for trustee of the University of Illinois.

Mrs. Freeman is a graduate of the Mattoon high school and attended the University of Chicago. She has always been interested in educational affairs, having taught school before her marriage and later served for five years as vice-president of the State Parent Teachers Association.

Mrs. Freeman is at present president of the Woman's Auxiliary of the Illinois State Medical Society and is also a member of the board of directors of the Woman's Auxiliary of the American Medical Association.

The proper management of the University of Illinois is of vital concern to the medical profession. Thousands of future physicians will receive their medical education in the State University. It is highly important that medical education of future doctors be conducted along proper channels. The attitude and outlook of affairs medical for embryo doctors will depend in a large degree on impressions gained in their student days.

We know of no better way to put over the great message of a proper medical education than to have the affairs in the State University directed in a large measure by physician trustees.

In the election of Mrs. Freeman to the position of trustee of the university the medical profession is assured of always having a friend at court.

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TESTIMONY OF PHYSICIANS AT THE HEARING OF THE SHEPPARD-TOWNER MATERNITY NOW UP FOR RE-ENACTMENT

The Sheppard-Towner menace is again a near cloud on the horizon. Drs. William D. Chapman, and William C. Woodward, of Illinois, George W. Kosmak of New York, Holman Taylor of Texas and Drs. C. B. Wright and H. M. Johnson of Minnesota appeared before the committee on commerce of the United States Senate on Feb. 4 and 5, 1932, for a hearing of S.572—a bill to provide that the United States shall co-operate with the states in promoting the general health of the rural population of the United States and the Welfare and Hygiene of Mothers and Children. Their testimony was in opposition to that of proponents for the bill.

As a matter of general information and education to the profession as to how practical politics handles its socialistic measures against the profession and as to the combatting of this injustice by the profession we quote from the testimony of Drs. Chapman and Woodward.

STATEMENT OF DR. WILLIAM D. CHAPMAN, SILVIS, ILL.

The Acting Chairman: Please state your full name and residence.

Doctor Chapman: My name is William D. Chapman, physician and surgeon in a railroad-shop town, Silvis, Ill., the common garden variety of physician.

The Acting Chairman: Proceed.

Doctor Chapman: I do not want to take up much time with figures, and I will try not to repeat things which have been gone over. But, while on the subject of the Minnesota figures, I would like to incorporate in the record that the Illinois figures from 1922 to 1929, during the period when all of these States except three were operating under the Sheppard-Towner Act, show the infant mortality rate dropped from 78 in 1922 to 61 in 1929. Our drop measures up very nicely with that of the States—.

Senator Copeland: What are the figures? What do they cover—maternal death rate?

Doctor Chapman: Infant mortality. Illinois was not in the registration area prior to 1922, but from 1922 to 1929 the maternal death rate stayed at 6, except 5 in 1922, and 7 in 1929, which leaves it an average of 6 for the period.

The only other figures which I think the committee is especially interested in just now is in the difference in the mortality rate in Illinois, urban and rural. The Illinois urban death rate in 1927 was 11.9 and the Illinois rural death rate for the same year was 10.5. The difference in the death rate is in favor of the rural communities.

I think that it would be a waste of the committee's time for me to go over or endeavor to go over or rehash things that were said this morning, but I do think I did not hear the proper perspective built up for the matter we are considering. If folks are ever to get together on a common ground upon any subject under consideration, it seems to me that the first necessity is the building of perspective—a common viewpoint makes all the difference in the world in the things which we see.

In this proposal we have several factors, first of which is the medical profession, which I believe has not been damaged in any way by the action of the Sheppard-Towner Act workings during its seven years of operation. It would be well for us to recall what the medical profession is and I would define it as a group of health experts who claim two things and two things only: That they have studied the health history of the world for a period of some 2,300 years, and that they stand ready to spread that record for the benefit of people who ask. I think that you will find that the profession never goes out of its way to force its attentions upon anybody who does not ask.

Senator Copeland: Is not that one reason, at least, why we need to have some machinery like this, because that is the unwritten law indeed, of the medical profession?

Doctor Chapman: That would depend on how you look at it, Senator. For folks who feel confidence in their ability to obtain that record and spread it for their own benefit, the medical profession should feel charitable humor, and for the most part is inclined to acquiesce, so long as these folks do not damage their neighbors. Whenever, through matters of infectious diseases, for instance, their neighbors are injured by the private spreading of false records, then it becomes the duty of the profession to protect the people who look to it for advice

against damage, and we have endeavored to do that.

In considering the matters brought up in the bill, I would submit, although I know it is an opinion that varies with some that have been expressed here today, that the care of maternity and infancy is the practice of medicine, for this reason: The practice of medicine consists of the approach to a patient, observation of all the factors to be seen, correlation of these factors, interpretation of the finding, and treatment. When a woman is pregnant, either she needs treatment or she does not need treatment. During a normal pregnancy, no woman is in need of any more care than the same woman is at any other time. Her own body physiology takes care of itself just as nicely during pregnancy as at any other time. A nurse can take perfectly good care of this woman, but no better care than she can take of herself. When any aberration of physiology shows, then more than that is needed. The nurse is trained. She is trained to observe and to report; she is not trained to correlate, nor interpret, nor to treat. If she exceeds her authority and does one of those three things, then she is practicing medicine without license. So the field of welfare work is distinctly limited in that connection. She is trained to observe and to report. The pregnant woman is subject to all of the ills and ailments which might bother her at any other time, plus a few more, one of which, as the doctor stated this morning, is the matter of toxicity. Whenever anything shows, the diagnosis, the interpretation, is not a nursing problem; that belongs to the medical profession, and it is proper in gathering that perspective—I think it is quite proper—to state that in the United States in all history every public health measure which has ever been proven to have value and which has remained permanent has not only originated with the medical profession but it has been fought for and pled for and begged for, and put over by the members of that profession.

Senator Moses: And also carried into effect?

Doctor Chapman: And also carried into effect by that profession. Extraneous health advice comes to all communities, and all people, and all legislatures, and the National Congress from very many sources. This is one. I think that I qualify as one of the original objectors. I have been objecting since 1916, before the Sheppard-Towner act was born. The Sheppard-Towner act was one of a group, and this is one of a group, which I think—and I am thoroughly and honestly convinced—carries a lethal menace to this country.

Senator Moses: What kind of a menace?

Doctor Chapman: Lethal; and I mean it that way—will kill the country, if enacted as permanent legislation and maintained among our laws. It is only one of a group. We have been bothered with them, especially since 1915, and we have hoped that there would come a time when public opinion would so recognize them that this danger to our Republic would be removed. The danger lies in the paternalistic change in the form of our government. The United States has had two forms of government already. It was a democracy and had no more credit or standing internationally than Russia has today. The minute it promoted itself to be a Republic it entered another phase of governmental activity, which is entirely normal and entirely right. I have no quarrel with politics; I think it is necessary—politics, political play, political search for votes—all are honorable, right, and proper in a Republic. I would not quarrel with that for a minute.

Senator Copeland: I would. It would depend on which party is in power. (Laughter.)

Doctor Chapman: But if any man convinces himself—himself, not somebody else—if any man convinces himself that a bill is not in the good interests of the country, but is to its bad interest, then that bill becomes to him a situation where politics is out. That has generally been recognized in the State legislatures and in the National Congress, and I have been very proud to feel it is so.

In Illinois, about 11 years ago, we had a heavy afternoon with the senate committee discussing the matter of the Sheppard-Towner Act. From that afternoon on we have never been threatened with anything of the sort. At that time the women's clubs of our State really believed—the members really believed—that the members of the Illinois State Medical Society wore hoofs, horns, ate smoke, and breathed fire, and they were influenced in—

Senator Copeland: Are you speaking now about a bill for your own State?

Doctor Chapman: The enabling act of the Sheppard-Towner law. The legislators were fearsome. There was such a volume of voice in favor of the legislation that they thought it was right. After a period of about four years sentiment changed and at the present time I do not have the least trouble in Illinois in talking to women's club audiences on this subject.

Doctor Kosmak, I believe, or somebody, this morning was of the opinion it was a hard matter to speak of it before a women's organization. I assure you that in Illinois it is not a hard matter to discuss. We have come to an understanding which is entirely sociable all around. The women's clubs do look to the State medical society for advice in health matters. The State society does supply them with advice in health matters at very great expense to its members—speakers, radio talks, newspaper articles, movie-picture shows, and extensive publicity campaigns.

We feel we have done well without the Sheppard-Towner law in operation; and, on account of the paternalistic effect contained in this bill, which I am sure is as bad as any the United States could incur, I am here to voice opposition to the bill.

In the matter of hygiene, there are only about so many things to be taught; it is not an extensive program. Over-teaching can do no good. The bill as prepared would provide presently for the expenditure of some $3,000,000 or $7,000,000 a year total, and I say to you in all earnestness, that all of the education which could be accomplished can be contained in about a 25-page brochure, which could be put out at infinitesimal expense, under the auspices of the United States Public Health Service.

Senator Copeland: What are you going to do with the illiterate families?

Doctor Chapman: They will not read it. You will not reach them, anyway. People who can read will not read it. Some people will. The highly literate and the illiterate will ignore it, and along the middle you will find a group which will read literature you put out; also, you will find that some of this group are willing to listen.

The Acting Chairman: Would you say this bill contemplated more than passing out booklets?

Doctor Chapman: I would say it did.

The Acting Chairman: It would depend wholly upon your State what you wanted to do. If you wanted to spend the money, if it were approved, you could spend the money getting out booklets?

Doctor Chapman: My State is barred if the thing goes through that way.

Senator Moses: With all the money available —$7,000,000, you can undertake to give oral instruction to every prospective mother?

Doctor Chapman: No; it would not do any good if you did. The value of education depends upon two things: First, upon who does the educating—in this case, whether doctor or nurse; second, upon the ability of the audience, the recipients, to assimilate education. There are people who can not be educated.

Senator Copeland: There are some doctors who can not teach.

Doctor Chapman: There are many doctors who can not teach.

Senator Copeland: Doctor, you certainly do not mean if we were to pass this bill and Illinois should determine to take its share of the money, that that is the way it would be expended in your State?

Doctor Chapman: No; I think at the present time Illinois would not consider taking their part in any such thing.

Senator Copeland: Then we do not have to worry about Illinois?

Doctor Chapman: Illinois has to worry about this, because Illinois is one of 11 States which in 1927 paid 95% of all cost.

Senator Copeland: If you are expecting to get sympathy, you will not. My State paid one-third of it.

Doctor Chapman: It is not an adequate, proper arrangement at all.

Senator Copeland: Do you mean to say there is no good in this sort of work that might be done under the operation of this bill?

Doctor Chapman: I could not speak for the American Medical Association in a flat yes-or-no answer. I can give a personal opinion, that there is none at all.

Senator Copeland: Well, he is your witness. (Laughter.)

Senator Moses: I do not want to cross-examine. He is doing well enough.

Doctor Chapman: I do speak for the Illinois State Medical Society. I was their president

last year and I know their temper, and I have authorization from the secretary and chairman of their council.

Senator Copeland: Have you in Illinois facilities by which you are going to give such proper education as you have been discussing here this afternoon? Are you going to educate your people through your State society?

Doctor Chapman: Honestly, Senator, we have done right well for the past seven years.

Senator Copeland: I think you have in your State.

Doctor Chapman: We have.

Senator Copeland: Do you think that is true of every State in the Union?

Doctor Chapman: Oh, no; nor of people in every community. The capacities of people vary. You can not make people take things they do not want. Some people do not have the capacity to assimilate education they do want.

Senator Copeland: Do you think on that account we should not make an effort to reach people who do not want it?

Doctor Chapman: My own method of doing that would be to allow the United States Public Health Service to function in a normal capacity, as it has done in the past.

Senator Copeland: As a part of this program?

Doctor Chapman: I know of no reason why the Surgeon General of the United States Public Health Service should be subjugated in his activities and in running his own department to a lay board who can outvote him on any proposition that comes up at any time.

The committee will presently listen to some very pathetic stories of great need. With the chairman's permission I want to relate one which is the most pathetic I can think of. It will not be long and there is no intent to be funny.

To illustrate a point, most of my obstetrical practice is in hospitals, but occasionally I make a delivery by the light of a kerosene lamp. One time I delivered a woman of a baby in a tent pitched on a manure pile, beside a siding which was used for the cleaning of stock cars. There were stock cars on the track at the time. It was an emergency. I had no time to move the woman to a hospital. I could not even have got her to the roadside after I got there. The labor was nearly finished. I never saw a more squalid layout—"squalid" is not the name, for it was worse than that, and I can not recollect a situation in which there was a higher tetanus hazard. She was a Belgian woman, but she was as black as a Mexican, and the cinders were incrusted on her skin so it rattled when scratched, and I had no time to clean her up. The baby was born in a few minutes.

I was back the next day. Everything was all right; no trouble at all, and the woman who had been with her rode back to town with me. While I was in the tent the woman said, "Doctor, what do I owe you?" Our custom was to charge $35 for confinement outside of the hospital, and my nerve failed me. I said, "You owe me $20, but you don't need to hurry about it. I don't care whether you bring it in soon at all or not."

She reached under her pillow and pulled out a roll of bills that could have been divided in such fashion that it would choke four grown bull dogs, peeled off a $20 bill and gave it to me.

The woman who rode back to town with me said, "They live that way because they want to. They have both got money. Both were married before, and both collected insurance from their dead husband and wife."

You will hear pathetic stories from other States, and I assure you that the people who live in the hills of Kentucky or who live in other places that are out of the way in the United States live that way because that is the way they know how to live. Many of those people are the healthiest people you can imagine.

In the effort to build up maudlin sympathy for some of these people who do not want your sympathy a great many words have been expended. I think that it would be a great advantage if the members of this committee can keep in mind a reasonable perspective of the United States as it is in its final consideration. Witnesses before the committee can not help the committee in forming its judgment.

If there are any questions, I should be very glad to answer them. I thought I saw in reading the bill a point or two which would be very hard for the Supreme Court to pass favorably upon. One was the one which was mentioned this morning regarding the States which had accepted, for example, Mrs. Gray's mention this morning of the Massachusetts court debacle. I suspect if I were endeavoring to get a bill before

a court which declared it had no jurisdiction, I should find some citizen some time who was willing to claim that he had personally been damaged, and I believe that I would get further before the court. That will happen some day. Some patient will die, and the husband, the widower, will be aggrieved enough that he will file complaint, and if a children's bureau nurse is found guilty of practicing medicine without a license in a State in violation of the State medical practice act, there will be a subject for the courts. I think that all States now have medical practice acts.

I thank you, gentlemen. You have been kind.

Senator Copeland: Mr. Chairman, what was the proposal of the Secretary of the Treasury about the amendment? Do you remember what he said?

The Acting Chairman: I do not remember the particular amendment. I thought we would look over and consider those when we go to write up the bill.

STATEMENT OF DR. WILLIAM C. WOODWARD, LEGISLATIVE COUNSEL FOR THE AMERICAN MEDICAL ASSOCIATION, CHICAGO, ILL.

The Acting Chairman: Doctor, please state your full name, residence, and the position you occupy.

Doctor Woodward: My name is William C. Woodward; legislative counsel for the American Medical Association, 535 North Dearborn St., Chicago, Ill.

I am a licensed physician, practiced medicine in the District of Columbia as a physician to the poor, helping out the midwives in the alleys, highways, and byways of my district. I was coroner of the District for somewhat over a year. I had the duty of investigating every death of an infant that occurred by practice of a midwife. I was for 24 consecutive years health officer of the District. I was for four years health commissioner of Boston. I have been president of the American Public Health Association, Conference of State and Federal Provincial Health Societies, and of what was then known as the American Association for the Study and Prevention of Infant Mortality, now known as the American Child Health Association, of which the President of the United States is at the present time president. I speak with respect to qualifications——.

Senator Copeland: You are thoroughly qualified. I would have admitted it before you spoke.

The Acting Chairman: Are you appearing here as the representative of all those various organizations?

Doctor Woodward: I am appearing here only representing the American Medical Association.

The Acting Chairman: You are here pursuant to a resolution of that association?

Doctor Woodward: Pursuant to a resolution adopted with respect to legislation of this character generally. Since this bill, or several bills now pending before Congress have been introduced, the board of trustees, which act in the absence of the house of delegates, has authorized my appearance.

The Acting Chairman: Are they supposed to speak for all the members of the association?

Doctor Woodward: Through the house of delegates. The house of delegates is made up of elected representatives from the several State medical associations, the number of delegates being proportioned to the members in the State organization. That is the official legislative body of the American Medical Association; that has spoken for the association.

Senator Moses: How many members are there in the association?

Doctor Woodward: About 95,000.

Senator Moses: I am sure Doctor Woodward does not mean that he speaks for all of the 95,000 individuals, but there is no doubt that the American Medical Association is opposed to the bill; is that right, Doctor?

Doctor Woodward: I did not catch the last of your question.

Senator Moses: I said I had no doubt that the official organization is opposed to the bill.

Doctor Woodward: Not the official organization; I should say the organization, because the representatives of the entire membership have spoken. They speak for the 90,000 members exactly as the Congress of the United States speaks for the people of the United States.

Senator Moses: And no more and no less? (Laughter.)

The Acting Chairman: We do not come anywhere near speaking for all the people. (Laughter.)

Doctor Woodward: The poor citizens who

have to contribute to pay for subsidies have to submit when you speak.

The Acting Chairman: That is true, but you can not bind all the members of the American Medical Association, however.

Senator Copeland: Does that mean that all the members of your organization who are not opposed to this bill have to accept what is done by the organization; I mean those in favor of the bill? Of course, there are many physicians in favor of the bill?

Doctor Woodward: They are at liberty to speak personally, as you will find Doctor McCormick and Mrs. Haines, who expect to speak in favor of the bill. They are both good members of the American Medical Association; they are exercising their rights.

The Acting Chairman: I have received a great many letters from doctors, members of the association, expressing themselves to the contrary.

Doctor Woodward: And some opposing?

The Acting Chairman: A good many opposing, but a good many for it.

Senator Copeland: Of course, most of them do not know anything about it. They have not given it any study?

The Acting Chairman: I think that is true.

Doctor Woodward: I am glad you mentioned that, Doctor Copeland, because I think the same thing is true to even a greater extent with respect to the General Federation of Women's Clubs. I believe that by and large the 90,000 members of the American Medical Association and the other readers of medical journals are better informed with respect to this matter, not only because of their education and training, but because of their reading of the medical journals, than are the 4,000,000 members of the General Federation of Women's Clubs.

I attended a conference in Illinois within the past two years, with a group from one of the local organizations.. We were discussing legislation on this same subject that was then pending. After probably five minutes discussion, it occurred to me that possibly some of them had not read the bill, and I interrupted to say "I presume you have read the bill," and it developed that not a member of that group had read the bill, and yet they were there in opposition to it.

Senator Copeland: How many members of the American Medical Association have read the bill? (Laughter.)

Doctor Woodward: I have not had an equal opportunity of testing that out. (Laughter.)

I should like to clear up, with the permission of the chairman, one or two matters that were discussed this morning. I was particularly interested in the letter that was submitted from the Secretary of Labor. The Secretary of Labor has on more than one occasion written letters in which he has referred to the influence of the Sheppard-Towner Act in reducing maternal and infant mortality. So far as known he has never yet submitted figures that undertake even to justify that opinion.

I venture the assertion, as I hope to show, if I am allowed the time or allowed to file what I have here, that there is absolutely no basis for that opinion.

Senator Copeland: I do not want to be controversial, but how would you attempt to prove that the work you and I did in public life ever did any good? That is a fair question. How could we determine that? We think it did. You and I have not the slightest doubt of it; the public has not. But, after all, if it were necessary to find some statistics to prove that what we did actually resulted in lowering the mortality rate or morbidity, it would be extremely hard to prove that was due to our efforts.

Doctor Woodward: It would, unless you make a study of particular groups or of particular diseases or particular localities; unless you make a preliminary study for a certain period and establish certain norms for the community, and then put into operation your new method and check up on the results, on the basis of the previously established norms, it is extremely difficult.

The next best thing is, of course, to take a new method and without waiting to establish a norm with respect to a particular disease, group, or locality go back and see what the record is.

Senator Copeland: You take the matter of measles in New York City. We thought we had a remarkable record in measles, but some how or other, by something we had done, we had reduced the incidence of measles, but last year they had the worst year they ever had in years past.

Doctor Woodward: They might have expected it.

Senator Copeland: Yet, after all, when you come to measure the actual results of our efforts in the improvement of public health, it is pretty hard to measure them in standards that would meet the acid test of critical study.

Doctor Woodward: The best method we have, the best indication, of course, is the death rate differential. With respect to death rates, I would say this, that it takes an expert, and an honest expert at that, to interpret them. With respect to the present situation, however, death rates, foreign and American, were considered an adequate basis for the enactment of the law in the first instance. We were told that the death rates in the United States were much higher relatively than they were in foreign countries. At any rate, they were accepted; and on that account we feel we are entitled to rely on death rates at the present time. We know that there is no basis for comparing the maternal and infant death rates in the United States with those of foreign countries. That has been admitted by the Census Bureau. It has been admitted by representatives of the League of Nations, and only recently a former medical officer of health of Great Britain, who has been employed by one of the great foundations to investigate comparative methods in the practice of medicine in the different countries, after undertaking to determine some way of making such comparisons, has announced the impracticability of it at the present time.

I have here a statement from the United States Census Bureau. I try, of course, as a man who is not engaged in active practice or active statistical work at the present time to cite authorities. In the 1924 Annual Report of the Bureau of the Census, Mortality Statistics, 1923, published in 1926—which happens to be the latest statement I could obtain, the United States Bureau of the Census said: (Reading)

As already pointed out, the classification of deaths from puerperal causes differs greatly in different countries. Higher rates in one country than in another, therefore, do not necessarily mean higher mortality from these causes. However, as—

And I ask you to mark this in view of the fact that we are going to make comparative statistics in our own country and in particular localities in our country.

However, as classification in a given country presumably differs but little from year to year, the rates do presumably serve as useful measures of mortality from these causes within the country itself.

And then there are some figures which it is hardly worth while to read at the present time. So that, even on that basis, our maternal mortality does not compare unfavorably with that of other countries. If you care to have them read I should be glad to read them.

Senator Copeland: They should be in the record.

Doctor Woodward: (Reading:)

Comparing the rates of 1923 with those of 1915, for puerperal septicemia, the United States shows the same rate for both years; England and Wales a reduction of 13.3 per cent in its rate; Australia an increase of 30.8 per cent; New Zealand an increase of 137.5 per cent, and Scotland the same rate for both years.

For other puerperal causes, the United States shows an increase of 5.4 per cent; England and Wales a decrease of 7.4 per cent; Australia an increase of 17.2 per cent; New Zealand a decrease of 15.4 per cent, and Scotland an increase of 7.1 per cent.

That gives the trend of maternal mortality in those countries.

What I desired to emphasize, however, with respect to the position of the Secretary of Labor, was not his reference to maternal and infant death rate, but his attitude with respect to Federal subsidies generally. There was passed last year what was commonly referred to as the Wagner bill for the purpose of establishing Federal State employment agencies. The bill, as you recollect, died as the result of pocket veto. The President, in explaining why he had allowed it to die, gave out a letter that had been written to him by the Secretary of Labor concerning the bill, and this is one of the reasons why the Secretary of Labor thought that bill might well die. (Reading:)

There are a great many other objections to this bill. The whole question of Federal subsidy to State governments is subject to the great question that in some States it would be used to set up agencies, given over largely to politics. In others the Federal appropriations would be used merely to relieve the State of one-half its present expenditure, with no increase in services. There is no provision to guarantee the character of State employees who would be partly paid by Federal funds. There can be no basis in our form of government for the Federal Government to force State legislative policies, such as this bill might imply. The measure provides for the establishment of 49 advisory councils, which means the widest variety of opinion and the maintenance of permanent friction, dispute and interfer-

ence with administration. It would be difficult to devise a better plan to defeat the unification of employment policy.

That is quoted from the United States Daily, March 9, 1931.

Senator Copeland: That is a statement of the Secretary of Labor?

Doctor Woodward: That is a statement of the Secretary of Labor, and given to the public by the President.

Senator Copeland: Doctor, you have lived here 24 years?

Doctor Woodward: Fifty years and more.

Senator Copeland: Then, you know very well that was pure politics?

Doctor Woodward: I see that in all good politics.

Senator Copeland: No; it was for political reasons. I will take out the "pure." (Laughter.)

The Acting Chairman: I do not think it applies to this bill at all.

Doctor Woodward: I cited his opinion of Federal subsidy. If Federal subsidy is bad for an employment agency, we might regard it as being equally bad——

The Acting Chairman: I do not think that applies to this bill.

Doctor Woodward: They are both subsidies. Then, we will go to another department. The President appointed a National Advisory Commission on Education, and this is what the National Advisory Commission on Education reported with respect to subsidies in education (reading):

The apparent danger that lurks in all our more recent attempts to inject the Federal Government into education in the local communities is that it has not always nor even generally manifested that tender regard for local modes of management which has characterized State and county cooperation with local schools. Federal agencies, frequently tend to set up modes of management highly centralist in spirit and effect, wherever they have tried to work in cooperation with state-wide agencies and local boards. Their right to approve and to reject plans submitted by the States, involving details of both administration and instruction, is not in harmony with the indigenous American spirit of local and decentralized management which has always yielded certain and good results given adequate time. It is the spirit of local self-government native to the American people which dominates most of our educational affairs in the 48 States. The centralists' attitude, already apparent where the Federal Government touches education in the States, is felt to be contradictory to our normal ways of conducting educational affairs, and hence arouses popular distress.

And then, after an ellipsis—

The matching of Federal money grants, with State or local funds whether their use is for general or special educational purposes, is a policy not to be favored in the field of education.

Senator Copeland: I am in the fullest accord with that whole statement, because the purpose of the Bureau of Education, of a department of education, would be to determine how the instruction should be given, who should give it and the quality of the instruction. That is not contemplated by this bill. The practical application of this bill is made by the State to enter, as the language so sympathetically and tenderly provides, into the wishes of the State. But there it was sought to superimpose on education in this country a dictation as to what should be taught in the colleges and how it should be taught. That is not involved here, Doctor. I do not think the case is parallel at all.

Doctor Woodward: Then, I think I have very greatly misunderstood the purpose of this bill, because I have understood it and I think it was represented here as primarily an educational measure.

Senator Copeland: Educational as regards the effect and sympathetic desires of the individual States.

Doctor Woodward: When it comes to limiting this work to rural and infant hygiene, I would like to call attention to a clause that was brought into the discussion this morning, before going to the body of what I have to say, and that is with reference to the coordination of State and Federal work.

Senator Copeland: On page 7 of the bill, line 8?

Doctor Woodward: Beginning on line 2. (Reading:)

That the plans submitted shall include promoting the establishment of local health services for mothers and children and shall provide that where county or other local general health services are established or being planned the work undertaken under the terms of this act in such county or other local health unit shall be coordinated with the general health services so as to provide or make effective the services of the local unit to mothers and children.

If you are going to coordinate the work for mothers and children with the general health

work of the community, that involves, manifestly, the authority to require that the general health work shall be adapted so as to coordinate itself with the work for mothers and children. You can not coordinate the two unless there is a matter of give and take on both sides, and in that case you are going outside of the field even named in this bill.

Senator Copeland: Now, since I raised that question, I would like to say this: I would not think at all that the language in this bill would give this bureau in Washington authority to tell the local health unit how it should do its work with reference to inoculations and physical examinations. But the money used by that local unit which came from this appropriation would be used in harmony with the purposes of the act and in that sense it would be coordinated with the activities of the local agency.

Senator Moses: Senator, you have just called for approval of the children's bureau of detailed plans for carrying out the purposes of this act. It does not say anything about merely being in harmony with the desires of the promoters of the legislation. The detailed plans must be approved, and if they are approved by the children's bureau, section 10 "the children's bureau shall, upon request of a majority of the board, withhold any further certificate provided for in section 9 hereof whenever it is determined as to any State that the agent thereof has not properly expended the money paid to it or the moneys herein required to be made available"—

Senator Copeland: It is perfectly clear what the intent is, that the State shall not use that money for any other than the specific purpose indicated in the bill.

Senator Moses: But even the detailed plans for using it have got to be approved.

Senator Copeland: There might be a limit to the detailed plans, and I think that has been thoroughly covered. The witness spoke about the White House. What was the attitude of the White House on this particular matter?

Doctor Woodward: There was a medical committee appointed, I think, that discussed the relation of the infant and maternal welfare work throughout the country, and with the exception of one member all agreed that if the work is to be done it should be transferred to the Public Health Service. That one member dissented and because of her dissent the report of that committee has been suppressed. If this committee wants it, I presume it can send for it. I understand it is not to be published.

Senator Copeland: I was in that White House Conference. My understanding is there was a little row.

Doctor Woodward: Every one was out of step but one member.

Senator Moses: Why can we not get that report?

Senator Copeland: Yes, I wish we might.

Doctor Woodward: Now, as to the scope of the work. I think that might well be cleared up.

These are extracts from certain approved plans submitted by State authorities, acquiesced in by Federal authorities under the Sheppard-Towner Maternity and Infancy Act. In each case the plans were submitted by the particular State agency administering the funds locally, and all such plans were stamped "Approved by Maternity and Hygiene Board." These memoranda are taken from the original plans. (Reading:)

California, in plans submitted June 7, 1926, made provision for publication of three pamphlets during the year, one on smallpox vaccination, one on "immunization with diphtheria" and one on the handicaps caused by tonsils and adenoids.

Colorado—

Senator Bingham: I do not want to interrupt about Colorado, but are we to understand that that was the whole plan, or merely part of the plan?

Doctor Woodward: Part of the plan.

Senator Bingham: Of the California Commission that was approved by the Bureau of Child Welfare.

Doctor Woodward: More was approved, but these are extracts or abstracts from the plans that were submitted, that were taken from the whole plan, because they seemed to us to be peculiarly out of place in the terms of the Sheppard-Towner Act. They relate to the general population, not to maternity.

Senator Moses: I did not realize how little they had to do with maternity and infants.

Doctor Woodward: (Reading:)

Colorado, in undated plans, approved June 25, 1926, provided for special work with the boys and girls' clubs at the State fair.

Senator Moses: What has that to do with maternity?

Doctor Woodward: The girls are some day to be mothers and the boys some day are to be fathers. So that has a direct relation to maternity and infancy. (Reading:)

Delaware, in plans submitted June 7, 1926, and approved June 25, 1926, outlined toxin-antitoxin campaign for the rural districts. Reference was made to the publication of literature on diphtheria, typhoidy milk, diarrhea-enteritis and diet for children from 1 to 4 years of age.

Senator Moses: Does that mean from the proceeds of the Sheppard-Towner act?

Doctor Woodward: Partly from the proceeds of the act. It is the plan submitted by the State in order to receive Federal funds.

Senator Moses: And accepted?

Doctor Woodward: And accepted by the board.

Senator Moses: In other words, they were perfectly willing for this Federal aid money to be used for that purpose, when matched by the State money?

Doctor Woodward: Yes.

Senator Copeland: Is that the full language? He has not given all the language, and certainly there is some specific determination that the amount given by the Federal Government should be used exclusively for maternity work.

I would not think for a minute toxin-antitoxin would be proper use of the funds appropriated in this bill.

Doctor Woodward: I will read an extract from the Delaware plans verbatim: (Reading:)

Since April, 1926, we have been conducting an extensive toxin-antitoxin campaign. A large number of preschool children have already been immunized and it is our plan to continue the campaign until every community is reached. During the summer months a typhoid campaign will be put on.

As the Senator knows, typhoid is not a disease peculiar to maternity or infancy.

The Acting Chairman: Was that a general State plan of activity?

Doctor Woodward: That was part of a plan submitted to be covered to the joint use of Federal and State funds.

Senator Moses: That was part of the plan, and when that was approved then they got a certificate, which permitted them to get money from the Treasury?

Doctor Woodward: That is right.

Senator Copeland: That was Delaware?

Doctor Woodward: Yes.

Senator Copeland: I assume that the commissioner or whoever it was, of Delaware thought it was his duty to outline to this bureau all the activities they were carrying on?

Doctor Woodward: Not in the least.

Senator Copeland: What was the action of the bureau in reference to that?

Doctor Woodward: That was approved. The original plans were inspected with the board's stamp of approval.

Senator Copeland: Is it too long to read?

Doctor Woodward: There are a number of others.

Senator Copeland: Give us another.

Doctor Woodward: (Reading:)

Georgia submitted plans for furnishing free diphtheria toxin antitoxin to clinics for the immunization of children under 7 years of age. Plans were submitted under date of September 30, 1926, and were approved November 4, 1926.

Senator Moses: It would seem the duty of the bureau when funds like this, submitted to obtain Federal funds for this purpose, to say, "you can not use this money for that purpose." That part of your plan, while perfectly all right for your own purposes, is not acceptable.

Senator Copeland: I am in the fullest accord with that, absolutely. This money ought not to be used, of course, until legal to use it for any purpose.

Senator Moses: If approved by the bureau?

Senator Copeland: Certainly; even then it is violative of the law, and there would be legal damages for it. I assume you are giving a few notable instances of dereliction on the part of the board. Were there any States which did do it in the proper way?

Doctor Woodward: Would the Senator care to have me read what New York submitted?

Senator Copeland: Yes, I would. I might make a row about it.

Doctor Woodward: (Reading:)

Plans for New York were submitted June 15, 1926, and approved June 25, 1926. The following excerpt is taken from the plans: Orthopedic clinics—

Senator Copeland: Is it your excerpt?

Doctor Woodward: It is our excerpt, but quoted verbatim.

Senator Copeland: I know, but have you everything in there?

Doctor Woodward: It is supposed to be. (Reading:)

Orthopedic clinics. This consists of a traveling unit consisting of two orthopedic surgeons, $4,500 and $3,500; 11 field nurses, eight at $1,800, one at $2,000, two at $1,500; and one muscle tester at $1,320. This work is carried on in connection with the post-polio cases and such other general orthopedic cases as are referred to it by the various agencies.

Senator Copeland: That was in 1926?

Doctor Woodward: 1926.

Senator Copeland: When did the Sheppard-Towner Act take effect?

Doctor Woodward: It took effect November 23, 1921, and was accepted by New York in 1922.

Senator Copeland: The governor, while he was there opposed to it, did not have it under his administration.

Doctor Woodward: It passed November 23, 1921. One or two States anticipated its passage and had passed enabling legislation before.

Senator Copeland: That is what I want to ask you, Doctor: Did you mean to say that in the administration of the Sheppard-Towner Act that the bureau here permitted my State or any other State to take funds appropriated for maternity and child care as contemplated in the bill—and that would mean the children of 1 or 2 years, as I understand it—do you mean to say that they were permitted to use that money for some other than the purposes of the bill?

Doctor Woodward: I would not say that, because the bill, as you may well remember, was very properly condemned at the time of its enactment, because of its failure to define mothers and infants. Under the law a male is an infant if under 21, and in the case of a woman under 18 years of age, and if you construe that phraseology in a legal sense they could probably use it for any one under those ages. A mother may be a woman who has children 50 years old, but still a mother. You may construe the act to provide for granting benefits to them. I would not say it was illegal, but I would say it did not meet the purposes of the bill.

Senator Copeland: How far do you think under the wording of this bill before us that the States applying it could go in the treatment of children? I dare say I am wrong about this, but I have always assumed this had to do with infants.

Senator Moses: Senator, if you will look at section 5, lines 21 and 22, you will find—

That no more than $5,000 of the Federal funds shall be expended in any State for general State maternal and child-health activities.

Toxin-antitoxin, boys' clubs and girls' clubs are child-health activities.

Senator Copeland: Yes, that is true.

Doctor Woodward: If the Senator will permit, I will finish reading from the New York plans submitted and approved. (Reading:)

Child-health consultations * * * a dental hygienist will be added to the unit at a salary of $2,000, to examine the teeth of children coming to the consultations and give prophylaxis where indicated.

And then under the head of "Postgraduate medical education," it says:

This service is carried on by the board of regional consultants to this division, who comprise specialists in obstetrics and pediatrics. In the post-graduate work, they have given courses of 6 and 8 lectures each to all the county medical societies requesting them, and thus far some 30 or more have been given. Toxin-antitoxin * * * in connection with the state-wide campaign to abolish diphtheria as carried on by the New York State Department of Health in cooperation with the State Charities Aid Association—

As I understand it, a private organization, but a very good one—

and the Metropolitan Insurance Co., it is signed for 1926-27 to assist in this campaign by urging the immunization of preschool-age children in the child health consultations carried on locally under the Sheppard-Towner funds.

Senator Copeland: Is not that exactly what the application should be, that it should be limited to children of preschool age? When these children get into school, there are agencies there where they are dealt with. It is pre-school-age children who need the attention, and I am suggesting to you, Senator Jones—and I will talk to you about it later—a change which will make that more clear.

The Acting Chairman: I wanted to ask the Doctor if he is still opposed to the legislation, with that made clear?

Doctor Woodward: I am absolutely in accord with what Doctor Chapman has said. This legislation is legislation absolutely destructive of our Government. It provides for the breaking down of the lines between the Federal Government and the State governments. So far as child welfare is concerned, it represents simply an easy way of avoiding definite and specific decisions of the United States Supreme Court and of

evading the mandate of the people when they would not ratify a proposed amendment of the Constitution that transferred to the Federal Government a matter of child welfare of, I will say, relative minor importance as compared with our whole subject, simply that of prohibiting the labor of children under 18 years of age.

Senator Copeland: You are representing the American Bar Association when you say that.

Doctor Woodward: I am a member of the American Bar Association, but I have no mandate—

Senator Copeland: You have got it mixed up with medicine. Certainly the American Medical Association is not worrying about technical questions of constitutionality and law, and this committee is anxious to know what are the specific objections of the American Medical Assotion just to the medical aspects of this bill. The Senate bill will have to determine the legal philosophy.

Doctor Woodward: Senator, I believe there is no group of citizens in the country who are now or have ever been more interested in the welfare of the country than the medical profession.

Senator Copeland: Far be it from me to deny that.

Doctor Woodward: If you will go back to the days of the Revolution and take what was done by Joseph Warren, I think it was, when he laid down his life at Bunker Hill. Take the activities of Surg. Gen. Benjamine Rush——

Senator Copeland: And Dr. Bartlett.

Doctor Woodward: And you will find no class of citizens who have been more interested in maintaining our republican form of Government.

Senator Copeland: We admit all that, but what we want to know, from the American Medical Association is what is your objection to the medical phases of it. Senator Bingham will take care of the law part:

Senator Bingham: I suggest that Doctor Woodward be permitted to go ahead and give the way the bill functions under the Sheppard-Towner Act, because this provides they must accept the principles of the Sheppard-Towner Act.

Senator Copeland: I think we can agree on it. I do not think that was well carried out.

The Acting Chairman: I think he has called attention to a number of instances.

Doctor Woodward: If the Senator will permit me, I do not want to blow my own horn, but I am a member of the bar of the District of Columbia, a member of the bar of the State of Massachusetts, a member of the bar of the State of Illinois, a member of the bar of the United States Supreme Court. I hold my position with the American Medical Association not merely because I am a doctor, but because my later years have been spent in legal work. I hold professorship at the present time in two law schools. It is for that reason I think I might be able to express opinions regarding the legal aspects of this work.

But I think that is all that needs to be said at the present time. We will come back to it later.

Senator Moses: I would like to call attention, Mr. Chairman, to the fact that in your bill, page 7, the last clause, lines 19 to 22, it seems to expressly imply that the State plan should promote the welfare and hygiene of childhood.

Doctor Woodward: However, Mr. Chairman, I shall not speak with respect to the legal aspects of the bill. I would like to call your attention to what I think is one of the most remarkable attempts to have invasion of the rights of the States by congressional legislation that I have ever seen or heard of, page 3, if you will turn to section 5, beginning with line 5, where we have this remarkable provision (reading:)

> In order to secure the benefits of the appropriation authorized in subsection (b) of section 3 of this act, a State must have accepted the provisions of the act entitled "An act for the promotion of the welfare and hygiene of maternity and infancy, and for other purposes," approved November 23, 1921, as amended (U. S. C., title 42, ch. 5), and shall not have repealed its acceptance of such act, or, in case such act shall not have been accepted—

And so forth.

The point is that because the State in some past time in its history has seen fit to accept another and entirely different act, which meanwhile has been expressly repealed by Congress, it is proposed Congress shall revise that old action by the State in favor of a new, different, and very much broader one than was ever contemplated in the original legislation. I submit that as being a pretty serious matter.

Senator Copeland: You would suggest that the matter be again submitted to the States, to

see which would care to accept the provisions of the present bill; is that it, Doctor?

Doctor Woodward: The only suggestion which I have to offer is that the bill is entirely and altogether a waste of public money, not calculated to do good, and that it ought never to have an opportunity of seeing the light of day in the form of an act of Congress. I have carefully studied the results of the Sheppard-Towner Maternity and Infancy Act, I have carefully studied the relations of rural infant and maternal mortality, and have been unable to see anything that justifies the act. Rural mortality —rural health is better than urban health, taken as a whole and in most specific instances. Maternal mortality has not diminished materially in the number of years, either under the Sheppard-Towner Maternity and Infancy Act, or elsewhere. It has not diminished in other countries. They are in the same situation, some of them, as we are. The trouble is that, first, we do not know all the causes that determine our infant mortality, and the other is that some of the causes we do know are beyond our control.

The Acting Chairman: If the bill should become a law, you would recommend every State to pay no attention to it and not comply with it?

Doctor Woodward: That would be the patriotic thing to do, but after the Government has levied on the States $2,250,000, and four years from now $4,250,000, which levied funds the Federal Government keeps in the Federal Treasury "until you ratify and accept this act," it might be policy to accept and do as the State of Texas did, and say, "We are in a bad mess, but we better make the best of it we can."

The Acting Chairman: We put the levy on regardless of this act.

Doctor Woodward: You are to put on a levy, but you do not put on a levy for the $2,250,000 or $4,250,000.

The Acting Chairman: We take that out of the general fund of the Treasury.

Doctor Woodward: It all comes from the same sources.

The Acting Chairman: That is exactly what I know.

Doctor Woodward: That was the difficulty in Massachusetts v. Mellon and in the case of Frothingham v. Mellon. I think one of the most dangerous features of this act and of all legislation of this kind is that decision of the United States Supreme Court which says "we can not pass on it because clearly here is a way in which the Constitution has been and is being invaded." You take the two decisions of the Supreme Court on the child labor law.

The Acting Chairman: I appreciate those decisions.

Doctor Woodward: They were perfectly clear.

Senator Copeland: I think we should accept Doctor Woodward's amendment in that section 5, requiring all States to give us——

Doctor Woodward: My suggestion would be to strike out all after the enacting clause.

Senator Copeland: This was a specific amendment, and you will have a blanket one later. I am interested in the suggestion. What is the next one after section 5?

Doctor Woodward: I did not come prepared to discuss the bill specifically, although I did go over it. I am opposed to the entire bill. The American Medical Association is opposed to the bill and its principles, and I am here particularly with reference to the figures to show it is not justifiable, that if you are going to provide a subsidy for health and welfare work, either of the rural or cities, that the cities need your aid more; that if you are going to provide aid for maternity and infant welfare, then you should make a careful survey of the administration of the Sheppard-Towner Maternity and Infancy Act and determine why it failed. Not only did it fail to decrease the maternity and infant death rate but out of the $11,000,000 spent under that act for the seven years' work under that act there was not a new idea that has ever come to my notice with respect to maternal and infant hygiene.

If you are going to legislate, I suggest you inquire and ascertain why that act failed.

Now, taking specifically the rural and infant and urban death rate, instead of my suggesting an amendment, possibly some one will frame one himself.

The United States Census Bureau classifies as urban all cities of 10,000 inhabitants or more. The remainder of the population is classed as rural. In the absence of any statutory definition of the terms "rural" and "urban," it is presumed that that division of the population into classes

is the division contemplated by this act. So far as I know, that is the only official classification of the country into urban and rural areas.

Senator Copeland: Then your idea would be to limit it either to take in everybody in the State or limit it to the smaller communities?

Doctor Woodward: I think the bigger communities need it most—New York, Chicago, Philadelphia, for example.

Senator Copeland: Let me ask you, as an old health officer, a question about that.

You know it is an entirely different thing for New York City to get money for public-health work than it is for Columbia County, a rural community?

Doctor Woodward: If the Senator will permit me, I am quoting from an official publication from the United States Bureau of the Census, received under date of January 4, 1932, entitled "Deaths From Puerperal Causes in the Birth Registration Area in 1929." I turn to the State of Tennessee, and I find that the maternal mortality—that is, mortality from puerperal causes—in 1929 per thousand live births was 8.7; that is, for every 1,000 mothers in the State who during the year were delivered of live-born children 8.7 per cent in Tennessee died.

Now, we will take Chattanooga. That is a good-sized city in Tennessee. The death rate in Chattanooga was 11.9, while the death rate in Memphis was 16.

Senator Copeland: Doctor, is it true or not that where you have a large colored population you have a very high maternal death rate?

Doctor Woodward: That is true, but we are speaking now of a population that covers but one State, Tennessee.

Senator Copeland: I know, but in the State of Tennessee you have the crowding of the colored population into the cities of that State. You take the population of one of those cities in Tennessee, and you have a very much higher proportion of colored population that you have in a city of the North, and you take it in New York City. The highest maternal death rate and the highest infant death rate we have in our city, that is, where we have the very highest maternal and infant death rate—

Doctor Woodward: Where is that?

Senator Copeland: In the dark belt of New York City.

Doctor Woodward: I know that the maternal mortality and the infant mortality among the colored people is high, but here we are dealing with a population that is practically distributed in the same way throughout the State, and I would like to read the record of just one more city in Tennessee, and that is Nashville, where the puerperal death rate is 13.7. I could read figures from other cities showing, again, that if either the cities or rural areas are to be favored, it is the cities that need it most.

Senator Copeland: Do you recommend that the bill be changed to cover the entire State in the whole country?

Doctor Woodward: I will submit that to the judgment of the committee. I am taking the country as a whole. In 1927, the last year for which figures were then available, showing the rural death rate in all registration States, the rural death rate was 10.4, while the urban death rate was 12.5.

The following figures show the relation of rural death rate to urban death rate in certain States, where I have selected the States with the utmost fairness. These States have been chosen for purposes of illustration solely because represented on the Senate committee before which this bill is pending. I have taken States with that limitation, and these figures relate to those States, and later on I submit a more elaborate statement.

In California in 1927—this is not uniform throughout—the rural death rate was 13.4 and the urban death rate 14.2.

In Connecticut the rural death rate was 9.6 and the urban death rate 10.5.

In Florida the rural death rate was 13.8 and the urban death rate was 12.5.

In Louisiana the rural death rate was 9.8 and the urban death rate 18.3.

In Maine the rural death rate was 13.4 and the urban death rate 14.7.

For Massachusetts the rural death rate 11.7 and the urban death rate 11.6.

In Michigan the rural death rate was 11.6 and the urban death rate 11.

In Mississippi the rural death rate was 11.7 and the urban death rate 23.2

For Missouri the rural death rate was 10.2 and the urban death rate 13.5.

In New Hampshire the rural death rate was 14.7 and the urban death rate 13.

In New York, rural death rate 12.6 and urban death rate 12.2.

In North Carolina the rural death rate was 10.5 and the urban death rate 15.6.

In North Dakota the rural death rate was 7.6 and the urban death rate 14.5.

In Ohio the rural death rate was 10.8 and the urban death rate 11.1.

For Oregon the figures were rural death rate 10 and urban death rate 15.8.

In Vermont the rural death rate was 15.4 and the urban death rate 16.3.

And in the State of Washington the rural death rate was 9.3 while the urban death rate was 11.3.

Showing clearly, I think, taking the States scattered over the country, that the rural death rates are better in the whole country than are the urban, taking the population as a whole.

Senator Copeland. Do you have definite reasons, because, as this nice gentleman, the country doctor—what was his name?

Doctor Woodward: It was Johnson.

Senator Copeland: Doctor Johnson pointed out that in the country where those Nordic cases are, if labor is permitted to go along as it will and undoubtedly as Doctor Kosmak said hasty obstetrics of the city has been disastrous—

Doctor Woodward: This covers deaths from all sources.

Senator Copeland: All right. But you have pointed out a number of States where you have a very large colored population in the cities, and where you do, you have an enormous death rate. Always where they are congregated together under the unsanitary conditions under which they live, the death rate is high, and you are bound to have in those cities a very high death rate.

Doctor Woodward: But you have the same thing in the rural districts of colored populations.

Senator Copeland: It is entirely different in rural Texas than it would be in Dallas or some other city where there is a large congregation of colored people living under slum conditions.

Doctor Woodward: What happens, I believe, is this: We send into the country districts doctors, nurses and social workers, many of whom are brought up in the city and many of whom have lived in nice hospitals, and nice homes, and when they see the uncomfortable conditions in which people in the country live they believe they must be unwholesome conditions; and when people come into the cities and see electric lights, steam heat, fans, screens, water supply, and plumbing they again feel that they are essential to health. They are, within reason—the plumbing and the water supply. But intelligence in the country will meet those conditions and intelligence in the country has met those conditions, as is shown by the record.

I will admit very frankly my partisanship and I wish somebody could convince me to the contrary. I have not been able to get a comparison of rural and urban death rates over a long period of consecutive years, but here are some other figures going back a number of years. In 1920 in all registration States of the United States the rural death rate was 11.9 and the urband death rate 14.1.

Senator Copeland: Does the bad milk in the city have anything to do with it?

Doctor Woodward. I hardly think so, as late as 1920.

Senator Copeland: Well, there were very few cities in 1920 that had pasteurized milk. I think if you will analyze those figures—

Doctor Woodward: I quit my active association in health work in Boston in 1922, and I thing the milk supply in both cities there was pretty good.

In 1923 the rural death rate was 11.5; urban death rate 13.2.

In 1924 the rural death rate was 10.9 and the urban death rate 12.8.

In 1925 the rural death rate was 10.7 and the urban death rate 12.9.

For 1926 the rural death rate was 11.1 while the urban death rate was 13.4.

It is a continual condition that health conditions are better in the country than in the city—

Senator Copeland: Then your recommendation is that we change the bill to cover the cities, too (laughter)?

Doctor Woodward: I hope the Senator will excuse me.

Senator Copeland: I will.

Doctor Woodward. I have spoken so far of

the general death rate, and I say we must take death rates as the best index and interpret them as the Senator has undertaken to interpret them in the light of the surrounding facts.

Senator Copeland: The infant death rate is the standard. I think that is the mark of civlization.

Doctor Woodward: I could say with respect to the urban general death rate there is a factor that must be recognized, and if the difference was not so uniform in every rural community it might be material, and that is the movement from the country to the cities for hospital operation, where, of course, they die, and the deaths ordinarily are charged to the communities where they die. But take the country as a whole and some of the cities, that should not be a very large factor.

Senator Copeland: Do you not agree with me that the fairest test of public-health work is the infant death rate. Those infants do not go to the city to die.

Doctor Woodward: No; they do not. I do not think that is any fairer than some others. You can not make a general death rate, and I suggested to the Bureau of the Census that Congress might well pass a law to prohibit the transmission through the mails of general death rates, because they are so commonly misunderstood. It takes an expert to interpret and the laity to misinterpret. You may have read an article, in the Senator's own city, when he happened to be health commissioner there, showing our infant mortality in the District of Columbia was higher than the infant mortality in the city of New York. We had for years, and I presume in Washington they still do, classify their infant death rate according to race, showing the infant death rate of the white race and the infant death rate of the colored race. I think under the Senator's administration New York ventured to do the same thing; and then we found that while our total infant death rate in the city of Washington was higher than the total infant death rate in the city of New York, our white death rate for infants was lower than the New York death rate and our colored death rate, for instance, was lower than the death rate in the city of New York.

Senator Copeland: That is because you had a better health commissioner.

Doctor Woodward: The paradox resulted from the fact that we had a very much larger percentage of the population colored, and therefore by the ordinary laws of mathematics our total death rates approached more closely the colored death rates than did they in your city.

Those are the kinds of things you have to interpret.

But now we come to what the Senator for present purposes may regard as a fair index of health activities, and we will take up the infant and maternal death rate. I make the bold statement here that there is no evidence here to show that in the rural areas there is more urgent need than in the cities for safeguarding the health of mothers and children and there is no special need for safeguarding the health of mothers and children as distinguished from the health of the community.

In the registration area of the United States as a whole, infant and maternal death rates are lower in rural communities than in urban communities.

The Senator has just said that the babies do not go to hospitals in the city, nor do the mothers in the city go to the hospitals in any large numbers at the time of delivery.

It shows the following figures from 1922 to 1927, which are the latest available. We will take the infant death rate for a period of six consecutive years, and those six consecutive years happen to be six consecutive years when the Sheppard-Towner maternity and infant act was in operation.

I have been told that the fact that the rural death rate in these cases is lower than the urban death rate speaks in favor of the Sheppard-Towner maternity and infancy act. We might attach some weight to that, were it not for the fact that the infant death rate in cities during that period where the Sheppard-Towner Act was not very actively carried out decreased as rapidly or more rapidly than it did in the country district where the Sheppard-Towner agents were operating.

These figures cover the registration area as a whole and show the infant death rate. For those who are not familiar with that, I would say that the infant death rate represents the number of infants who died during a given year per 1,000 live-born infants during that same period.

In 1922 the rural infant death rate was 72 and the urban 80.

Senator Copeland: Are you using the same chart?

Doctor Woodward: The same chart as relates to 1922.

Senator Copeland: Mine is 72 and 78—it is near enough. Go ahead.

Doctor Woodward: In 1923 the rural infant death rate was 76 and the urban 78.

In 1924 the rural infant death rate was 69 and the urban death rate 72.

In 1925 the rural infant death rate was 70 and the urban 73.

In 1926 the rural death rate was 72 and the urban 74.

In 1927 the rural infant death rate was 64 and the urban 65.

Senator Broussard: How old do you consider a baby an infant, as old as 1 year at the time of death?

Doctor Woodward: If I speak as a doctor, I would say two years would represent the period of infancy; if I spoke as a layman I would say 21 years.

Senator Broussard: What period does this take?

Doctor Woodward: One year.

Senator Copeland: In my State in those six years—these are the figures you gave me, Doctor Woodward—in 1922 the rural rate was 72 and the urban 78.

Doctor Woodward: Yes, that is right.

Senator Copeland: But the next year, 1923, the rural rate was 76 and the urban 71.

Doctor Woodward: Yes.

Senator Copeland: In 1924 it was 67 in the country and 70 in the city; and 1925 was 71 in the country and 71 in the city; 1927, 62 in the country and 59 in the city.

Doctor Woodward: You will find that record repeated when you come to the maternal death rate. The maternal death rate for the registration area as a whole beginning with 1922 is as follows:

Rural six—that is, six mothers die for every 1,000 deliveries from puerperal causes—1,000 deliveries of live children in the State. Rural, 1922, 6; urban 7.3; 1923, rural, 5.9; urban 7.4; 1924, rural 5.8 and urban 7.4; 1925, rural 5.6; urban 7.4; 1926, rural 5.7 and urban 7.4; 1927, rural 5.5, urban 7.5. And showing persistently a lower death rate rural for mothers and infants. Those are all taken from official figures.

I have here a statement which I shall not undertake to read, unless some one desires it, giving those figures by States. We have some interesting figures, but I will not take up your time.

Senator Bingham: You will have those in the record?

Doctor Woodward: Yes, sir; I will.

Senator Copeland: Was the title of the Sheppard-Towner Act confined to rural districts?

Doctor Woodward: It was not.

Senator Bingham: In that regard, I would like to read, for the sake of the record, the title of the Sheppard-Towner Act. It was "An act for the promotion of the welfare and hygiene of maternity and infancy and for other purposes." Nothing is said about rural districts; and the title of your bill provides that 'the United States shall cooperate with the States in promoting the general health of the rural population of the United States and the welfare and hygiene of mothers and children." This is general health; this is rural and welfare and hygiene of mothers and children. We have gotten a long way from the maternity and infants.

The Acting Chairman: Oh, yes; there are two propositions involved in this bill.

Doctor Woodward: I think the figures I have given are sufficient to show that there is no real need for giving any preference to rural areas over urban areas.

Senator Copeland: Does not that prove, then, that what we have done in the cities is all humbug?

Doctor Woodward: No, it does not.

Senator Copeland: I want to be reassured on that, if we have fallen down so desperately in the cities. I used to suppose that $7,000,000 a year was an enormous sum of money, 4,000 employees, and, of course, I am pleased to see the New York figures are far superior to those general figures. But, nevertheless, what is the value of this public health education that we get?

Doctor Woodward: Here is what we should like to see given and what the proponents of the Sheppard-Towner maternity and infancy plan, I think, have ignored, that the measure of the efficiency in health work is not primarily the

death rate but is the rate in the decline of the death rate, and more particularly the decline in the death rate from preventable causes. You must measure the efficiency of the steps we have taken by determining the rapidity by which death rates have declined, and if you go back over a period of years, long before the Sheppard-Towner Maternity and Infancy Act was dreamed of, you will find that the decline was going on most rapidly.

Senator Copeland: What do you find regarding the morbidity rate?

Doctor Woodward: We have no reliable information regarding the morbidity rate, even of communicable diseases. They escape registration. We do the best we can, but the Senator knows perfectly well, I think, with respect to death rate of scarlet fever that the types of diseases, quite aside from the number of fatal cases, are very different from what they were when we began practice. I know they are different from the time when I began practice.

My first epidemic with smallpox I handled was here in the city of Washington, when we had an outbreak in the Interior Department, with a mortality rate somewhere around 25 to 30 per cent of all cases. Now, if you have a greater percentage in smallpox than 1 or 2 per cent, you begin to think you are getting a rather serious outbreak. I think the most important thing in the control of smallpox is the personal hygiene of the public. Many hundreds have contributed to that, but we do not know but that tomorrow the same thing will happen with respect to smallpox death rate that the Senator said happened in his own community with respect to measles.

Senator Copeland: These results are intangible. It may well be when we have increased the efficiency of the people that the incipiency of disease has been lessened, although some say, doctor, it is difficult to know about that.

Doctor Woodward: I think that is true, but take the death rate and its decline, particularly diseases against which your operations are designed. Then you will determine whether you are winning or losing each battle.

Senator Bingham: Does not everybody know it is healthier to live in the country than in the city, anyway? Is not that one reason why the rural death rate is lower?

Doctor Woodward: It contributes very materially.

Senator Bingham: And, therefore, would it not be very reasonable to limit it to the cities that need it rather than to the country that is quite healthy in comparison with the city?

Doctor Woodward: That would be a reasonable thing.

Senator Copeland: I know you want to get through, but we are going to give you all the time you want. Senator, it is not fair to take a State like Connecticut, where every community is a summer resort.

Senator Bingham: I thank you.

Senator Copeland: And compare it with a rural State like my own. You think about New York as a great urban State. As a matter of fact, we are the eighth in agriculture in our State. It is a rural State, and I know from personal observation that there are many counties in this State of mine where there is almost no medical service rendered. It is a very serious matter, and if that is true in a rich State like my own, it must be true in all the States except a State like Connecticut or some other State that is purely devoted to the rich and the people who have villas and country estates.

Senator Bingham: Or Iowa, where the death rate is only 9?

Senator Copeland: You take in all the States of the Middle West, where you have a large Nordic population. Take Minnesota, North and South Dakota, Iowa and Nebraska, where you have a population composed largely of peoples from the north of Europe. They are a hardy people entirely different from the people where we live.

Senator Bingham: The Louisiana death rate is only 9.8. Of course, these tables show, Mr. Chairman, that the rural death rate in New York State is unusually high. There are only six States out of the 42 that have a higher rural rate than New York State. Therefore, probably we ought to make an exception and have the rural communities of New York get the benefits and the urban communities in other States.

Senator Copeland: The bright lights of Broadway attract our people, including doctors. You can not get a doctor to go out in the country to practice. They stay in the cities. That is what they are doing.

Doctor Woodward: The Senator knows as well as the most of us that the average case on which a doctor is called would get well without a doctor.

Senator Copeland: Yes.

Doctor Woodward: I want to digress and say that, so far as any selfish interest on the part of doctors is concerned in this legislation, there is no group in the community that has such a large financial stake in saving the lives of mothers and infants and of the rest of the community as has the medical practitioner. My mathematics with respect to that differ from those of the majority of my fellow physicians. If I manage, by skillful obstetrical treatment, to bring a child into the world alive, if I am a proper physician, a good, old, practical, country physician or family physician, I am expected to treat that baby a little later, it may be for diarrhea, teething, measles, mumps, scarlet fever, broken bones, and, finally, it may for appendicitis. I have that child for a potential patient up to 70 or 75. But if I blunder and that child is stillborn, I have lost a potential patient. The same is true of mothers. When you save the life with proper care, that patient becomes an asset of not only social value but economic value and monetary values, for the doctor, because he has a patient for a long time.

Senator Copeland: I want to testify to the fact that I do not believe any selfishness on the part of the profession is involved in this matter.

Doctor Woodward: If there are any problems, the States have demonstrated their ability to care for them. They have demonstrated not only their ability to care for them from the standpoint of hygiene and public health, but they are able to care for them also from the standpoint of financing.

For that purpose you have to consider the infant death rate before and after Federal aid was extended. Figures have been published so often that I am not going to read them, but you will find the infant death rates in the States that accepted the Sheppard-Towner maternity and infancy act was declining more rapidly before the act came into operation than they declined afterwards. I am not blaming the act for retarding the decline. We all know that just as you approach the ideal, just as you come nearer to the bull's-eye, it becomes more and more difficult to hit it or to obtain the ideal, and that is what has happened in the present case. But certainly there is not an iota of evidence anywhere in the records I have been able to find—and I have searched diligently—that will show that the Sheppard-Towner maternity and infancy act accelerated the decline in the infant death rate one bit. The States did just as well before as after.

And furthermore, in those States that did not accept the Sheppard-Towner maternity and infancy act, and in the District of Columbia, which had no opportunity to say whether it would or would not accept, the decline was just as rapid as it was in those States that took the thousands of dollars of Federal money and submitted to the supervision of Federal agents in their work.

Senator Copeland: Certainly, Doctor, you are not tremendously impressed with those fine words you have just used, are you?

Doctor Woodward: I leave those words as they are. But they have been challenged. I have some figures, Senator.

Senator Copeland: You know a little while ago we laid the foundation of the fact that the results of public health are intangible?

Doctor Woodward: But the decline of the death rate was tangible.

Senator Copeland: You would not expect in a rural county where they never had any public-health education that in six years you would accomplish what you did in 24 years in Washington?

Doctor Woodward: I would expect, with respect to infant mortality, that the results ought to show up at most in three years, because your death rates are computed on the basis of the children that are born each year.

Senator Copeland: How long before the death of the child should its education begin?

Doctor Woodward: Not very long.

Senator Copeland: A hundred years, is it not?

Doctor Woodward: If you want to live long, you have to live carefully.

Senator Copeland: That is right, and I do not think you would make much of a dent in the community in six years. As a matter of fact, the good that has been done in a community will be reflected years to come, because this prospective mother today who is given proper in-

structions is going to instruct her daughter, even though she has no expert to do it—

Senator Bingham: When they wanted that job for five years to try it out.

Doctor Woodward: I would be glad to take almost any six years' period and say there was a substantial decline in the infant mortality after we had fair and complete reporting. You have to get that first. It will show up very rapidly.

I will say something that is not generally recognized. Those of you who were here when the Sheppard-Towner Act was passed will recall that one of the strongest points made in favor of that legislation was that they were accomplishing such wonderful results in New Zealand. New Zealand was held up as a pattern, because it had a low infant mortality. From those very same years I will produce figures from the District of Columbia that show that the infant mortality rate in the District of Columbia was declining at that very time, not only as rapidly but more rapidly than the New Zealand infant mortality rate. Our records were more efficient than theirs, but the chances are that the methods in one case could not fairly be compared with the methods in the other.

Senator Copeland: Do you not think you and I were very fortunate? There were so many things which entered into better living conditions, greater prosperity on the part of the people, better milk, better water supply. There was an awakening of social conscience during that time. We have all those things to build up in those rural communities. It is going to take a long time to do that.

Doctor Woodward: I do not believe that is the case. They are reading now. They have the radio and magazines.

Let me show you what the States did do before and after the Sheppard-Towner Act, by figures, and if you do not believe what I said, you will see why I do.

The infant death rates registration in 1915 were, rural 94; 1916, 97; 1917, 88; 1918—the Senator will recall that was the year of the epidemic of influenza—84; 1919, 84; 1920, 81; and from 1915 to 1920 the rate declined from 94 to 81.

And then the Sheppard-Towner maternity and infancy act comes on the scene. The following is 1921—of course, the Sheppard-Towner Act did not become operative until November 23 and had no influence on the death rate for that year —74; 1922, 72; 1923, 76; 1924, 69; 1925, 70; 1926, 72; 1927, 64. In other words, from 1915 to 1921 the rate declined from 94 to 74, or 20 points; from 1922 to 1927, 72 to 64, or 8 points.

Take the urban rate—1915, 103. In 1921 it had fallen to 78; 1922, when the Sheppard-Towner maternity and infancy act became effective in many States, it was 80; and in 1927 it was 65.

Senator Copeland: Doctor, you are not going to say that because I had during my term a reduction of death rate from 1921 to 9 that the next health commissioner was a failure because he does not reduce it from 9 to 4?

Doctor Woodward: No; because I see no evidence of any accelleration or even maintaining, but I think I have explained that.

Senator Copeland: Is it not a fact, in your opinion, that if you can have in any community, county, or township an effective health organization built up, with modern ideas of administration, that you are going to have improved health and various intangible benefits, but doubtless, in the long run, some reduction in the death rate; is not that a fair statement of the facts?

Doctor Woodward: An intangible reduction, but it ought not to be an intangible reduction.

Senator Copeland: Then what is the use of spending money for health?

Doctor Woodward. I think under the local conditions—and we will come to what the effect of the Sheppard-Towner Act is on the situation —take the rural maternal death rate in 1915, which was 5.5; 1921, 5.9, just about the same; 1922, when the Sheppard-Towner Act came into effect, 6; 1927, 5.5, just about the same, or in 1927, after the Sheppard-Towner Act had been in operation five years, exactly what it was in 1915.

The urban death rate was 6.4 in 1915, 7.73 in 1922, and 7.5 in 1927.

The States have accomplished as much without that aid as with it, and they will continue to do so.

Something was said about the effect of the aid, and I see the representative of the State of Kentucky here, one of the proponents of this act, and reference has been made to his di-

plomacy in the matter of the act. I would like to read some figures for Kentucky under the operation of the act, and the figures for Kentucky before, so that when he speaks, if he does speak, he may explain how it happened.

The infant and maternal death rates in Kentucky before the Sheppard-Towner Maternity and Infancy Act—this is the infant death rate —were: In 1917, 87; 1918, the influenza year, 93; 1919, 82; 1920, 75; 1921, 62. There is a decline before the Sheppard-Towner Act of 67 to 82. The Sheppard-Towner Act went into operation the following year, with a death rate of 69; and this is the way the death rate for Kentucky has fluctuated in that period when the Sheppard-Towner Act went into operation: Infant death rate 1922, 69; 1923, 72; 1924, 65; 1925, 71; 1926, 75; 1927, 61; 1928, 70; 1929, 71. It fluctuated during that period from 69 to 71, and ended up at 71.

Senator Copeland: How much money did the public health officer have to spend at that time?

Doctor Woodward: I do not know. The following year, when the Sheppard-Towner Act was no longer operative, 1930, the infant death rate dropped six points to 65. I do not say that was because the Sheppard-Towner Act ceased to operate, but I give you the figures.

Senator Copeland: Then, by the same argument, you have got to say we have to stop all our health work because the Sheppard-Towner Act was repealed?

Doctor Woodward: I say that the States did as well without the Sheppard-Towner Act as with it.

We have for the maternal rate 1917, before the Sheppard-Towner Act, 6; in 1921, the last year before the act, 6.3; the first year of the Sheppard-Towner Act, 6.1; and it ended up in 1921 as 6.7. Those things can be explained, if you want to. You will find in there the same excess of urban mortality over rural mortality that you will find in other States. I will not undertake to read all, but take 1927, the infant mortality rate, rural, in the State of Kentucky was 59, urban 71. The maternal mortality in the rural portion of Kentucky was 4.7 and the urban 6.2.

It shows that the States can and have done it. I hope within a day or two we shall have the figures for each particular State, along with these other tables, so that he can analyze them and submit to experts and find wherein I have made error, if I have made any.

I come now to another important matter, and that is the matter of the financial ability of the State. This act was supposed to encourage the States to increase appropriations for this class of work. So far as I can discover, it did nothing of the sort but had the contrary effect. Doctor Taylor told you this morning that in his own State, which has been appropriating annually approximately $50,000 a year, I think it was, when the Sheppard-Towner Act began, diminished its appropriation to $15,000. Here is a more remarkable situation: When money was provided by the Federal Government in the form of subsidy for maternal and infant hygiene, certain representative States, and presumably all the States which accepted such subsidies, seemed to have relied on the Federal subsidies to conserve State funds, so as to make them available for other purposes than maternal and infant hygiene. When Federal subsidies were no longer available, many States appropriated for maternal and infant hygiene more nearly in keeping with their ability to pay. The report of the Children's Bureau in 1929, page 8, shows that immediately after the withdrawal of Federal subsidies under the Sheppard-Towner Act became inevitable, 15 representative States and the Territory of Hawaii appropriated amounts equaling the combined Federal and State funds of the previous year. That is, when the Federal subsidy was no longer available.

Senator Copeland: Then it had that educational value that induces the States today?

Doctor Woodward: Induced them to conserve their own funds that might have been used for infant hygiene for other purposes.

Senator Copeland: Then, perhaps in the long run that is good?

Doctor Woodward: That is outside of the purposes of the act, however. The States of Delaware, Maine, Maryland, Michigan, Missouri, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, South Dakota, Tennessee, Vermont, and Wisconsin and other States made immediate provision for increasing the State appropriations substantially when the Federal funds were withdrawn, showing they might have been able to do so before.

I shall not discuss further the constitutionality of this act, but if I might I shall file my statement generally. But I do want to speak briefly with respect to the act as a matter of public policy. I think it was Doctor Chapman who said he had no objection to feeling provoked, and all of those things that go with good republican government. I agree with him. I think, however, that our platforms have a certain meaning, and so I would like to read from the Democratic platform of 1928 to show where it stood with respect to the enlargement of the bureaus as herein contemplated.

Senator Copeland: Jim Reed wrote that, did he not? (Laughter.)

Doctor Woodward: It is very mild. I am quite sure he did not write the Republican platform, and I will read that next following. The Democratic platform provided (reading):

We demand that the constitutional rights and powers of the States shall be preserved in their full vigor and virtue. These constitute a bulwark against centralization.

We oppose bureaucracy and the multiplication of offices and officeholders.

We demand a revival of the spirit of local self government without which free institutions can not be preserved.

The Republican platform of 1928 was no less specific. (Reading):

There are certain other well-defined Federal obligations, such as interstate commerce, the development of rivers and harbors, and the guarding and conservation of natural resources. The effort which, however, is being continually made to have the Federal Government move into the field of State activities has never had, and never will have, the support of the Republican party. In the majority of the cases State citizens and officers are most pressing in their desire to have the Federal Government take over these State functions. This is to be deplored for it weakens the sense of initiative and creates a feeling of dependence which is unhealthy and unfortunate for the whole body politic.

There is a real need in the country today to revitalize fundamental principles; there is a real need of restoring the individual and local sense of responsibility and self-reliance; there is a real need for the people once more to grasp the fundamental fact that under our system of government they are expected to solve many problems through their municipal and State governments, and to combat the tendency that is all too common to turn to the Federal Government as the easiest and least burdensome method of lightening their own responsibilities.

Senator Copeland: That sounds familiar. Do you happen to have what the parties said about public health?

Doctor Woodward: I do not recall just what that came under, but I think under social service.

Senator Copeland: We will put that in the record tomorrow, Senator Jones.

Doctor Woodward: There is another feature of this bill that demands consideration, and that is the permanency of the legislation. The Sheppard-Towner Act was, as you know, offered as an experiment, first for five years, and then extended for two years. I know perfectly well it was claimed to be permanent legislation along toward the end of the five years. I was reasonably familiar with what went on at the time of the enactment. I do not believe anyone even suggested at the time it was enacted that it was proposed to be permanent legislation.

Senator Copeland: I want to say that I said on the floor of the Senate at that time I was not bound by any cloak-room agreement.

Doctor Woodward: This is no "cloak-room agreement." This is what transpired at the time the bill was enacted in 1921. I do not believe anyone contemplated it was to be a permanent feature of our Government.

But, coming now to something that President Hoover has said—

The Acting Chairman: Let me say in connection with that, not in response to what he read. but it has been contended, and probably will be contended when this comes up on the floor, that the Senators agreed not to bring this up again. I expressly stated on the floor that I would not be bound by any such proposal.

Senator Copeland: You said that when we were debating it in 1926, and I said the same thing?

The Acting Chairman: Yes, sir.

Senator Copeland: I was not going to be bound by any cloak-room agreement.

The Acting Chairman: I did not use the words "cloak-room," but I said I was not bound by any agreement entered into because expressly announced on the floor at the time of the making of the agreement I would not be bound by it.

Doctor Woodward: I shall be through in just a moment more. I only want to get an expression of the present President with respect to permanent legislation of this character. The President, in his annual message of 1931, said (reading):

It is inevitable that in these times much of the legis-

lation proposed to the Congress and many of the recommendations of the executive must be designed to meet emergencies. In reaching solutions we must not jeopardize those principles which we have found to be the basis of the growth of the Nation. The Federal Government must not encroach upon nor permit local communities to abandon that precious possession of local initiative and responsibility. Again, just as the largest measure of responsibility in the Government of the Nation rests upon local self-government, so does the largest measure of social responsibility in our country rest upon the individual. If the individual surrenders his own initiative and responsibilities he is rendering his own freedom and his own liberty. It is the duty of the National Government to insist that both the local governments and the individual shall assume and bear these responsibilities as a fundamental of preserving the very basis of our freedom.

Now, again, in his annual message of 1929—that was a year earlier, the President said (reading):

In a broad sense Federal activity in these directions has been confined to research and dissemination of information and experience, and at most to temporary subsidies to the States in order to secure uniform advancement in practice and methods. Any other attitude by the Federal Government will undermine one of the most precious possessions of the American people; that is, local and individual responsibility.

Senator Copeland: Did not the President in his message a year ago recommend this reenactment?

Doctor Woodward: I will come to that in a moment. (Continues reading):

We should adhere to this policy.

It was in his message of 1929. In his message of 1930 he emphasized the temporary character of Federal subsidies, saying (reading):

I urge further consideration by Congress for the recommendations I made a year ago looking to the development through temporary Federal aid of adequate State and local services for health of children and further stamping out of communicable disease, particularly in the rural sections.

And he recognized the drain that subsidies make on Federal revenues, saying (reading):

The drain upon the Federal Treasury is comparatively small.

The drain, mark you, is "comparatively small." What was a small drain in 1930 might be regarded as a larger drain now.

The results, both economic and moral, are of the utmost importance.

No reference did he make to public health; no reference to improved death rate, but "results both economic and moral are of the utmost importance."

And then in 1931, the possibility of economic results of any character resulting from Federal subsidies for mothers and children and for all inhabitants of rural areas was for some reason ignored, the President in his annual message saying only (reading):

I again call attention to my previous recommendations upon this subject, particularly in its relation to the children. The moral results are of the utmost importance.

Then, in his annual budget message—and with this I close, he said—and I commend this particularly to the attention of those present (reading):

To those individuals or groups who normally would importune the Congress to enact measures in which they are interested, I wish to say that the utmost patriotic duty which they can perform at this time is to themselves refrain and to discourage others from seeking any increase in the drain upon public finances.

I thank you very much, gentlemen, for your patience.

Senator Copeland: There is one thing.

Doctor Woodward: I will be glad to answer any questions I can.

Senator Copeland: Mr. Mellon in his letter said that this plan, the Jones bill, would not be in conflict with the program of the President if limited to $2,000,000 a year.

I think your presentation, Doctor Woodward, has been very able.

Doctor Woodward: If there are any questions now or which can be answered later, I shall be glad to answer, or if there is any data to look up I shall be pleased to furnish that. I will file with the stenographer the gist of what I have said.

(The additional statement submitted by Doctor Woodward is as follows:)

MEMORANDA RELATIVE TO S. 572

By Dr. William C. Woodward, legislative counsel, American Medical Association, 535 North Dearborn St., Chicago, Ill.

I. PURPOSE OF BILL

The purpose of this bill is (1) to protect and promote health among the rural population and (2) to promote the health and welfare of mothers and children in rural districts and in towns and cities of not over 50,000 population.

II. HOW PURPOSE IS TO BE ACCOMPLISHED

The bill aims to accomplish its purpose through Federal subsidies, payable to the several States on certain conditions:

(a) That the State accept the terms of the act,

except that with respect to the subsidies for materual and infant hygiene it is to be sufficient that the State once accepted the Sheppard-Towner maternity and infancy act.

(b) That the State submit its plans for work within the field or fields selected to a Federal board, and have those plans approved by that board.

(c) That the State carry on its work under those plans to the satisfaction of the board.

(d) That the State appropriate an amount of State money prescribed by the bill, to match Federal funds.

III. ADMINISTRATION

To carry the act into effect, the bill proposes to create a new Federal board, to be known as the Federal Health Coordinating Board, consisting of the Surgeon-General of the Public Health Service, the Chief of the Children's Bureau, and the Commissioner of Education.

It authorizes appropriations:

1. For rural hygiene, varying from $1,000,000 for the fiscal year ending June 30, 1932, to $3,250,000 for the fiscal year ending June 30, 1937, and for every year thereafter.

2. For the hygiene of maternity and infancy, for the fiscal year ending June 30, 1932, and for every fiscal year thereafter, $1,000,000.

IV. EFFECTIVE PERIOD

The proposed act is to be permanent legislation.

V. HISTORY OF BILL

The antecedents of this bill run back to the Federal child labor act of September 1, 1916, declared unconstitutional on June 3, 1918; to the Federal child labor (tax) act of February 24, 1919, declared unconstitutional on May 15, 1922; to the Kahn-Chamberlain legislation of July 9, 1918, providing, as a war measure, Federal aid to the States for the prevention of venereal diseases; and to the proposed child labor amendment to the Constitution, submitted to the several States by act of June 4, 1924, which the States refused to ratify. This bill arises immediately, however, out of the Sheppard-Towner maternity and infancy act of November 23, 1921, which Congress expressly repealed to take effect June 30, 1929, and out of certain clauses that have been embodied from year to year in appropriation acts authorizing the Public Health Service to conduct demonstrations in rural hygiene in the several States.

VI. HOW THIS LEGISLATION MUST BE JUSTIFIED, IF AT ALL

To justify the enactment of this legislation it must be shown:

(a) That there is need for special measures to safeguard the health of the rural population generally.

(b) That there is special need to safeguard the health of mothers and children in the rural areas, and special need to safeguard the health of mothers and children outside of the rural areas, but in towns and cities of less than 50,000 population.

(c) That the States are unable to meet the needs described above, either because of ignorance or because of financial distress.

(d) That the Federal Government is able to meet those needs, because of its superior wisdom or because it has financial resources that can not be better employed.

(e) That the methods proposed by this bill are within the constitutional authority of the Federal Government and are consistent with sound public policy.

VII. URBAN AND RURAL DEATH RATES OF POPULATION AS WHOLE

There is no evidence of special need for measures to safeguard the health of the rural population, as distinguished from the health of the urban population.

The United States Census Bureau classifies as "urban" all cities of 10,000 inhabitants or more. The remainder of the population is classed as "rural." In the absence of any statutory definition of the terms "rural" and "urban" it is presumed that that division of the population into classes is the division contemplated by this Act.

The rural death rate for the entire population in the registration States as a whole is lower than the urban death rate. If, therefore, Federal aid can be extended either to the rural population or to the urban population, but not to both, as this bill implies, it should be extended to the urban population.

In 1927, the latest year for which figures are available, showing rural and urban death rates in all registration States, the rural death rate was 10.4, while the urban death rate was 12.5. The following figures show the relation of rural death rates to urban death rates in certain States. These States have been chosen for purposes of illustration solely because they are represented on the Senate committee before which this bill is pending. A list showing these death rates for all States is appended. (See Exhibit A.)

EXHIBIT A

State	Death Rate Rural	Urban
California	13.4	14.2
Connecticut	9.6	10.5
Florida	13.8	12.5
Louisiana	9.8	18.3
Maine	13.4	14.7
Massachusetts	11.7	11.6
Michigan	11.6	11.0
Mississippi	11.7	26.2
Missouri	10.2	13.5
Nebraska	7.9	11.9
New Hampshire	14.7	13.0
New York	12.6	12.2
North Carolina	10.5	15.6
North Dakota	7.6	14.2
Ohio	10.8	11.1
Oregon	10.0	13.8
Vermont	13.4	16.3
Washington	9.3	11.3

The foregoing figures have been taken from Mortality Statistics, 1927, Part I, Table I-A, pages 2-3, published by the Bureau of the Census, Washington, 1929. Statistics for Georgia and Texas did not appear in the report, those States having apparently not been in the registration area in 1927.

VIII. URBAN AND RURAL DEATH RATES OF INFANTS AND MOTHERS

There is no evidence to show that in rural areas there

is more urgent need than in urban areas for Federal aid in safeguarding the health of mothers and children, and none to show that in towns and cities of less than 50,000 population each, there is any special need for safeguarding the health of mothers and children, as distinguished from the health of the rest of the community.

In the registration area of the United States as a whole, infant and maternal death rates are lower in rural communities than in urban communities, as is shown by the following figures for the years 1922 to 1927, inclusive, which are the latest available. Corresponding figures covering the period from 1915 to 1927, inclusive, are appended.

	Infant death rates		Maternal death rates	
	Rural	Urban	Rural	Urban
1922	72	80	6.0	7.3
1923	76	78	5.9	7.4
1924	69	72	5.8	7.4
1925	70	73	5.6	7.4
1926	72	74	5.7	7.4
1927	64	65	5.5	7.5

The foregoing figures are based on a table furnished by the Bureau of the Census and published in Report No. 2751, House of Representatives, Seventieth Congress, second session, February 26, 1929, to accompany H. R. 17183, pages 10 and 14. The death rates stated above represent the numbers of deaths occurring during the calendar year named, in infants during the first year of life from all causes, and in mothers from causes incident to pregnancy and childbirth per 1,000 live births occurring during the same year. From the same source and computed on the same basis are the following figures with respect to rural and urban maternal and infant death rates for particular States, in the latest year for which figures are available, 1927. These figures represent the death rates for the several States represented on the committee before which this bill is pending.

	Infant death rates		Maternal death rates	
	Rural	Urban	Rural	Urban
California	70	57	5.2	6.1
Connecticut	66	57	4.5	5.7
Florida	67	69	11.5	9.8
Louisiana	73	89	7.7	12.3
Maine	77	86	6.0	12.4
Massachusetts	64	65	3.5	6.7
Michigan	64	70	5.4	7.8
Mississippi	64	88	7.9	15.8
Missouri	57	63	5.8	8.1
Nebraska	48	60	4.9	9.2
New Hampshire	66	72	7.1	5.9
New York	62	59	5.0	6.3
North Carolina	74	106	5.7	11.2
North Dakota	66	47	4.3	10.5
Ohio	59	64	4.1	7.6
Oregon	48	47	5.6	7.5
Vermont	71	65	5.9	13.3
Washington	53	47	6.5	6.8

IX. ABILITY OF STATES TO CARE FOR RURAL, MATERNAL AND INFANT HYGIENE

Available evidence shows that the States are able to safeguard the health of their rural population, either generally or with respect particularly to the health of mothers and children in rural areas, and to safeguard the health of mothers and children in towns and cities of less than 50,000 population, as well without Federal subsidies as with them.

Rural death rates.—That the several States have been able effectively to deal with problems of rural hygiene is shown by the following table showing rural and urban death rates in the registration States during the years stated.

Infant death rates.—The infant death rates in the several States were declining rapidly under State activities alone, before Federal subsidies were provided under the Sheppard-Towner maternity and infancy act. After that act was passed, the decline was not as rapid as it had been before, nor was it any more rapid in the States that yielded to the terms of the act than it was in the States that did not yield. There is not the slightest evidence to show that the rate of decline in infant mortality was accelerated in any State as the result of Federal aid. The following table shows the rate of decline in infant mortality, urban and rural, in the entire registration area, by years, from 1915 to 1927, inclusive. The Sheppard-Towner maternity and infancy act became a law November 23, 1921. Some States did not accept it at once and some did not accept it at all. The table must be interpreted with those facts in mind.

Maternal death rates.—Maternal death rates have remained more or less stationary for many years past. There is no evidence to show that Federal subsidies to any State, under the Sheppard-Towner maternity and infancy act caused a downward trend or maintained a downward trend in those rates. The following figures embody the record with respect to maternal mortality rates in the entire registration area, from 1915 to 1927, inclusive.

	Infant death rates		Maternal death rates	
	Rural	Urban	Rural	Urban
1915	94	103	5.5	6.4
1916	97	104	5.7	6.5
1917	88	100	6.2	7.0
1918	94	108	8.7	9.6
1919	84	89	6.9	7.9
1920	81	91	7.4	8.6
1921[1]	74	78	5.9	7.7
1922	72	80	6.0	7.3
1923	76	78	5.9	7.4
1924	69	72	5.8	7.4
1925	70	73	5.6	7.4
1926	72	74	5.7	7.4
1927	64	65	5.5	7.5

[1]The Sheppard-Towner maternity and infancy act was approved Nov. 23, 1921.

The death rates for mothers and infants in two States and in the District of Columbia, in which the Sheppard-Towner Act never came into operation, are stated in the following table. They show that in Massachusetts and in the District of Columbia the decline in infant death rates was well established before the passage of the Sheppard-Towner Act and that without the aid of that act the decline continued after its passage. In Illinois, which was admitted to the registration area in 1922, the rate of decline in the infant death rate, with-

out the aid of the Sheppard-Towner Act, was as rapid as the decline in the infant death rates of the several States that came under the operation of the act. The figures show further that the maternal death rates in the jurisdictions named have not maternally declined, which corresponds with the records in the Sheppard-Towner States.

Infant and maternal death rates in jurisdictions never under the Sheppard-Towner Act

	Infant death rates			Maternal death rates		
Year	District of Columbia	Illinois[1]	Massachusetts	District of Columbia	Illinois[1]	Massachusetts
1915	111	...	101	7	...	6
1916	106	...	100	10	...	6
1917	97	...	98	8	...	6
1918	112	...	113	9	...	9
1919	85	...	88	8	...	7
1920	91	...	91	9	...	7
1921[2]	83	...	76	10	...	6
1922	85	76	81	7	6	7
1923	92	82	78	10	6	6
1924	76	71	68	12	6	6
1925	87	73	73	9	6	6
1926	85	69	73	8	6	6
1927	68	64	65	9	5	6
1928	65	64	64	8	6	6
1929[3]	71	61	62	(4)	7	7
1930	(4)	55	58	(4)	(4)	(4)

1. Not in registration area, until 1922. Figures not available.

2. The Sheppard-Towner Act was approved November 23, 1921. It was never accepted by this jurisdiction.

3. The Sheppard-Towner Act expired by express repeal, June 30, 1929.

4. Figures not available.

Financial ability of States.—There is no evidence to show that the States generally are financially any less able than is the Federal Government to provide money for rural, maternal, and infant hygiene. The effect of Federal subsidies in deterring States from appropriating to the full extent of their ability was clearly shown through the operation of the Sheppard-Towner Maternity and Infancy Act. When money was provided by the Federal Government, in the form of Federal subsidies for maternal and infant hygiene, certain representative States—and presumably all States that accepted such subsidies—seem to have relied on the Federal subsidies to conserve State funds, so as to make them available for purposes other than maternal and infant hygiene. When Federal subsidies were no longer available, many States appropriated for maternal and infant hygiene more nearly in keeping with their ability to pay. The report of the children's bureau, 1929, page 8, shows that immediately after the withdrawal of Federal subsidies under the Sheppard-Towner Act became inevitable, 15 representative States and the Territory of Hawaii appropriated amounts equalling the combined Federal and State funds of the previous year. These States were Delaware, Maine, Maryland, Michigan, Missouri, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, South Dakota, Tennessee, Vermont, and Wisconsin. Other States made immediate provision for increasing their State appropriations substantially when the Federal funds were withdrawn. If these States were able so to increase their appropriations on the withdrawal of Federal subsidies, there is no reason to believe that they could not have increased them before; the withdrawal of the Federal subsidies certainly did not add to their financial resources. If these States increased their appropriations because of the withdrawal of Federal subsidies, probably some or all of the remaining States might have done so.

X. CONSTITUTIONALITY OF THE FEDERAL SUBSIDY SYSTEM

The use of Federal subsidies for the purpose of procuring the right to supervise and control intrastate activities over which the Federal Government has no constitutional authority is unauthorized by anything in the Constitution.

That the Federal Government has no authority over intrastate child welfare is amply attested by at least two decisions by the United States Supreme Court, by the refusal of the States to ratify a constitutional amendment proposing to give the Federal Government certain authority over child welfare within the States, and by the fact that the Federal Government even now does not venture to go into any State to exercise any supposed authority over child welfare, but provides a cash payment for each State that will give the Federal Government the right to do so. What is true concerning Federal authority over child welfare within the several States is equally true with respect to rural and maternal welfare.

When Congress enacted a statute purporting to regulate child labor within the several States, under Federal authority over intrastate and foreign commerce, the United States Supreme Court said: "To sustain this statute would not be, in our judgment, a recognition of the lawful exertion of congressional authority over interstate commerce, but would sanction an evasion by the Federal power of the control of a matter purely local in its character." (Hammer *v.* Dagenhart, 247 U. S. 251, 38 S. Ct. 529). When Congress later undertook to regulate child labor within the several States, under the authority granted it under the taxing clause of the Constitution, the United States Supreme Court said: "Here the so-called tax is a penalty to coerce the people of a State to act as Congress wishes them to act in respect of a matter completely the business of the State government under the Federal Constitution." (Bailey v. Drexel Furniture Co., 259 U. S. 20, 42 Sup. Ct. 449.) When Congress by joint resolution of June 4, 1924 (43 Stats. L. 670) proposed to the people of the several States that they grant to the Federal Government authority to prohibit in the several States the labor of persons under 18 years of age, the people refused to grant that authority.

When the constitutionality of the Sheppard-Towner Infancy Act was called into question and the Federal Government undertook to establish that constitutionality, the United States Supreme Court significantly refrained from deciding the matter, notwithstanding the fact that the constitutionality of a statute is always to be upheld where it is possible for a court to do so: The Supreme Court said "We have reached the conclusion that the cases must be disposed of for want of

jurisdiction without considering the merits of the constitutional questions." (Massachusetts *v.* Mellon: Frothingham v. Mellon, 43 S. Ct. 597, 262 U. S. 447.)

When the Federal Government and the government of a State have under the Constitution a joint interest in a matter, such as the building of roads, there can be no constitutional objection to the two Governments acting jointly with respect to the matter. When they have a joint interest with respect to such a matter as the suppression of contagious diseases—the Federal Government with respect to their suppression in interstate and foreign commerce and the State government within the confines of the State itself—there can be no objection to joint action. When the Federal Government owns extensive forest areas and by virtue of its proprietary interest has a right and a duty to protect them from fire and other destructive agencies, and the State government within which these forest areas are located has a governmental duty to protect such property, whether it belongs to the Federal Government or a private citizen, the pooling of the resources of Federal and State Governments is free from constitutional objection. When, however, the Federal Government uses moneys that it has raised by Federal taxation, for the purpose of buying from the States some of their constitutional rights, or bribing them to give up such rights, or coercing them into such a surrender, the procedure is objectional from every constitutional standpoint.

Moreover, the legislation now proposed is obnoxious class legislation. It seeks to provide Federal gratuities for residents in rural areas, as distinguished from residents in urban areas, without any rational basis for the preference, since the records show that the residents of urban areas are more in need of that benefit than are residents in rural areas.

XI. PUBLIC POLICY AS RELATED TO THE FEDERAL SUBSIDY SYSTEM

The intrusion of the Federal Government into the province of the States was condemned in the Democratic platform of 1928, which said:

"We demand that the constitutional rights and powers of the States shall be preserved in their full vigor and virtue. These constitute a bulwark against centralization * * *.

"We oppose bureaucracy and the multiplication of offices and officeholders.

"We demand a revival of the spirit of local self-government without which free institutions can not be preserved."

The Republicant platform of 1928 was no less specific:

"There are certain other well-defined Federal obligations, such as interstate commerce, the development of rivers and harbors, and the guarding and conservation of national resources. The effort which, however, is being continually made to have the Federal Government move into the field of State activities has never had, and never will have the support of the Republican Party. In the majority of the cases State citizens and officers are most pressing in their desire to have the Federal Government take over these State functions. This is to be deplored, for it weakens the sense of initiative and creates a feeling of dependence which is unhealthy and unfortunate for the whole body politic.

"There is a real need in the country today to revitalize fundamental principles; there is a real need of restoring the individual and local sense of responsibility, and self-reliance; there is a real need for the people once more to grasp the fundamental fact that under our system of government they are expected to solve many problems themselves through their municipal and State governments, and to combat the tendency that is all too common to turn to the Federal Government as the easiest and lease burdensome method of lightening their own responsibilities."

The Secretary of Labor, under whose jurisdiction it is proposed to place a part of the authority and money to be provided by this bill, has forefully pointed out the objection to the Federal subsidy system, and the President might almost be said to have given tacit approval to the Secretary's statement, when he made it public in explaining his failure to approve the bill introduced by Senator Wagner (S. 3060, 71st Cong.) to provide for the establishment of an employment system for cooperation with the States. The Secretary said:

"There are a great many other objections to this bill. The whole question of Federal subsidy to State governments is subject to the great question as in some States it would be used to set up agencies, given over largely to politics. In others the Federal appropriations would be used merely to relieve the State of one-half its present expenditure, with no increase in services. There is no provision to guarantee the character of State employees who would be partly paid by Federal funds. There can be no basis in our form of government for the Federal Government to force State legislative policies, such as this bill might imply. The measure provides for the establishment of 49 advisory councils, which means the widest variety of opinion and the maintenance of permanent friction, dispute, and interference with administration. It would be difficult to devise a better plan to defeat the unification of employment policy." (United States Daily, March 9, 1931. New York Times, March 8, 1931.)

The President, in his annual message, December, 1931, again stated principles condemnatory of the Federal subsidy system:

"It is inevitable that in these times much of the legislation proposed to the Congress and many of the recommendations of the Executive must be designed to meet emergencies. In reaching solutions we must not jeopardize those principles which we have found to be the basis of the growth of the Nation. The Federal Government must not encroach upon nor permit local communities to abandon that precious possession of local initiative and responsibility. Again, just as the largest measure of responsibility in the government of the Nation rests upon local self-government, so does the largest measure of social responsibility in our country rest upon the individual. If the individual surrenders his own initiative and responsibilities he is surrendering his own freedom and his own liberty. It is the duty of the National Government to insist that both the local

governments and the individual shall assume and bear these responsibilities as a fundamental of preserving the very basis of our freedom."

The President, always in his previous messages, has emphasized the urgent importance of the temporary character of Federal subsidies. In his annual message of 1929, referring to the program of the Federal Government for constructive social service, he said:

"In a broad sense Federal activity in these directions has been confined to research and dissemination of information and experience, and at most to temporary subsidies to the States in order to secure uniform advancement in practice and methods. Any other attitude by the Federal Government will undermine one of the most precious possessions of the American people; that is, local and individual responsibility. We should adhere to this policy."

"The apparent danger that lurks in all our more recent attempts to inject the Federal Government into education in the local communities is that it has not always nor even generally manifested that tender regard for local modes of management which has characterized State and county cooperation with local schools. Federal agencies frequently tend to set up modes of management highly centralist in spirit and effect, wherever they have tried to work in cooperation with state-wide agencies and local boards. Their right to approve and to reject plans submitted by the States, involving details of both administration and instruction, is not in harmony with the indigenous American spirit of local and decentralized management which has always yielded certain and good results given adequate time. It is the spirit of local self-government native to the American people which dominates most of our educational affairs in the 48 States. The centralist attitude, already apparent where the Federal Government touches education in the States, is felt to be contradictory to our normal ways of conducting educational affairs, and hence arouses popular distrust." (Report of the National Advisory Committee on Education, on Federal Relations to Education, Part 1, Washington, 1931, pp. 19-20.)

"The matching of Federal money grants, with State or local funds whether their use is for general or special educational purposes is a policy not to be favored in the field of education." (Ibid., p. 33.)

Again, in the President's annual message, in 1930, he emphasized the temporary character of Federal subsidies, saying:

"I urge further consideration by Congress for the recommendations I made a year ago looking to the development through temporary Federal aid of adequate State and local services for the health of children and the further stamping out of communicable disease, particularly in the rural sections."

And he then recognized the drain that subsidies made on Federal revenues, saying:

"The drain upon the Federal Treasury is comparatively small. The results both economic and moral are of the utmost importance."

In 1931, the possibility of economic results of any character resulting from Federal subsidies for mothers and children and for all inhabitants of rural areas was for some reason ignored, the President in his annual message, saying only:

"I again call attention to my previous recommendations upon this subject, particularly in its relation to children. The moral results are of the utmost importance."

And finally, we must emphasize the plea made by the President in his annual Budget message, 1931:

"To those individuals or groups who normally would importune the Congress to enact measures in which they are interested, I wish to say that the most patriotic duty which they can perform at this time is to themselves refrain and to discourage others from seeking any increase in the drain upon public finances."

Comparison of urban and rural death rates for entire population in the registration States of the United States in the calendar year 1927

[Compiled from mortality statistics, 1927, Twenty-eighth annual report, Part I, Table I-A, pp. 2-3. Published by the U. S. Bureau of the Census, Washington, 1929]

	Urban rate	Rural rate
All registration States	12.5	10.4
Alabama	16.3	9.4
Arizona	30.6	9.5
Arkansas	20.2	8.5
California	14.3	13.4
Colorado	14.9	10.6
Connecticut	10.5	9.6
Delaware	11.6	13.3
Florida	21.5	13.8
Idaho	12.4	6.6
Illinois	11.9	10.5
Indiana	12.2	11.8
Iowa	12.8	9.1
Kansas	12.5	9.3
Kentucky	14.2	9.8
Louisiana	18.3	9.8
Maine	14.7	13.4
Maryland	14.0	12.1
Massachusetts	11.6	11.7
Michigan	11.0	11.6
Minnesota	11.7	7.9
Mississippi	26.2	11.7
Missouri	13.5	10.2
Montana	13.1	6.2
Nebraska	11.9	7.9
New Hampshire	13.0	14.7
New Jersey	11.2	11.4
New York	12.2	12.6
North Carolina	15.6	10.5
North Dakota	14.2	7.6
Ohio	11.1	10.8
Oregon	13.8	10.0
Pennsylvania	12.2	10.6
Rhode Island	11.3	10.9
South Carolina	20.9	10.6
Tennessee	18.3	9.9
Utah	12.2	7.3
Vermont	16.3	13.4
Virginia	12.6	10.8
Washington	11.3	9.3
West Virginia	14.7	9.0
Wisconsin	11.4	9.3
Wyoming	10.5	7.8

NOTE.—"Urban" includes cities of 10,000 inhabitants or more in 1920; the remainder of the States is included as "rural."

Comparison of urban and rural infant and maternal death rates

KENTUCKY

Year	Infant		Maternal	
	Rural	Urban	Rural	Urban
Before Sheppard-Towner period:				
1917	85	103	5.5	9.8
1918	90	119	7.4	11.9
1919	78	105	5.9	9.2
1920	70	90	5.9	9.4
1921	60	72	5.8	9.3
During Sheppard-Towner period:				
1922	67	83	5.4	9.7
1923	68	89	5.6	8.0
1924	62	79	5.7	8.8
1925	67	85	5.5	8.3
1926	72	92	5.5	7.5
1927	59	71	4.7	6.2

Year	Infant	Maternal
Before Sheppard-Towner period:		
1917	87	6.0
1918	93	8.0
1919	82	6.3
1920	75	6.4
1921	62	6.3
During Sheppard-Towner period:		
1922	69	6.1
1923	72	6.0
1924	65	6.2
1925	71	6.0
1926	75	5.8
1927	61	4.9
1928	70	6.0
1929	71	6.7
After Sheppard-Towner period: 1930	65	..

But probably the most overworked figures that have been used in the support of the Sheppard-Towner propaganda are such as those referred to above, purporting to show an exceedingly high maternal mortality rate in the United States as compared with the maternal mortality rates in other countries. Concerning comparisons of that kind, the Bureau of Census has this to say:

"As already pointed out, the classification of deaths from puerperal causes differs greatly in different countries. Higher rates in one country than in another, therefore, do not necessarily mean higher mortality from these causes. However, as classification in a given country presumably differs but little from year to year, the rates do presumably serve as useful measures of mortality from these causes within the country itself.

"Comparing the rates of 1923 with those of 1915, for puerperal septicemia, the United States shows the same rate for both years, England and Wales a reduction of 13.3 per cent in its rate, Australia an increase of 30.8 per cent, New Zealand an increase of 137.5 per cent, and Scotland the same rate for both years. For other puerperal causes, the United States shows an increase of 5.4 per cent; England and Wales a decrease of 7.4 per cent; Australia an increase of 17.2 per cent; New Zealand a decrease of 15.4 per cent; and Scotland an increase of 7.1 per cent." Twenty-fourth Annual Report, Bureau of the Census, Mortality Statistics, 1923, published in 1926, page 64.

Just what comfort Sheppard-Towner propagandists can get out of these figures is hard to see.

The house of delegates of the American Medical Association, in May, 1922, declared the original Sheppard-Towner Act a product of political expediency and not in the interest of public welfare, and disapproved it as a type of undersirable legislation which should be discouraged. Eight years later, the house of delegates, after observing the Sheppard-Towner Act in operation for a period of seven years, has found no evidence to produce any change in its views with respect to the act. At the Detroit session, in June, 1930, the following resolution was approved:

Whereas, the American Medical Association is in entire sympathy with the cooperative efforts of Federal and State agencies to establish and develop official local health organizations for the conduct of those activities which are generally recognized as the proper functions of such health departments; and

Whereas, the usurpation of any public-health function by any lay bureau of the Federal Government, which, through allotments of Federal subsidies for special health services, seeks to duplicate and administer duties and functions already placed by law on the United States Public Health Service, tends to produce inefficiency and waste; and

Whereas the United States Public Health Service has in the past efficiently discharged its duties with respect to such matters and now, through recent organization, has been provided with enlarged facilities for carrying on such work; and

Whereas, an effort is now being made to revive and perpetuate the Federal subsidy system established under the defunct Sheppard-Towner Maternity and Infancy Act, which authorized the payment of State subsidies, over a fixed period of years, on an arbitrary and irrational basis of population, without reference to the ascertained sanitary and health needs of the several States or to their ability to meet their own needs; and

Whereas, the payment of such subsidies was made dependent on the surrender by the legislatures of the several States, to the Federal Government, of the right to supervise and control State activities in the selected field of public health; and

Whereas this system after seven years' trial under the administration of a lay bureau effected no improvement in the field of public health in which it was operative, notwithstanding the expenditure of millions of dollars of Federal and State money; and

Whereas in the judgment of the house of delegates of the American Medical Association, any such system tends to destroy local initiative and sense of responsibility and to pay Federal funds for purposes named by the Federal Government to States not in need of Federal aid: Be it

Resolved, That the house of delegates of the American Medical Association condemns as unsound in policy, wasteful and extravagant, unproductive of results, and tending to promote communism, the Federal subsidy system established by the Sheppard-Towner Maternity and Infancy Act, and protests against the revival of that system in any form;

Resolved, That it is the sense of the house of delegates that each State should be left free to formulate

its own health programs, with the cooperation of the United States Public Health Service if desired by the State, free from any inducement or compulsion in the way of Federal reward or coercion;

Resolved, That any legislation involving cooperation between the Federal Government and the several States in the field of public health must, in the interest of efficiency and economy, in the judgment of the house of delegates, be administered under the joint supervision and control of the United States Public Health Service and the State health authorities; and be it further

Resolved, That copies of these resolutions be sent immediately to the President of the United States and to every Senator and Representative in Congress.—Proceedings, House of Delegates, A. M. A., 1930, p. 35, 40, 41.

EXHIBIT B

Comparison of infant and maternal death rates in the registration State of

[Compiled from House Report 2751, 70th Cong., 2d sess., Feb. 26, 1929, accompanying H. R. 17183]

	Infant death rates		Maternal death rates	
Year	Rural	Urban	Rural	Urban
1915	94	103	5.5	6.4
1916	97	104	5.7	6.5
1917	88	100	6.2	7.0
1918	94	108	8.7	9.6
1919	84	89	6.9	7.9
1920	81	91	7.4	8.6
1921[1]	74	78	5.9	7.7
1922	72	80	6.0	7.3
1923	76	78	5.9	7.4
1924	69	72	5.8	7.4
1925	70	73	5.6	7.4
1926	72	74	5.7	7.4
1927	64	65	5.5	7.5

1. The Sheppard-Towner Infancy and Maternity Act was enacted Nov. 23, 1921.

RAVENSWOOD HOSPITAL, CHICAGO ESTABLISHES STAFF NURSING

We wish to announce a new plan of nursing to be known as STAFF NURSING at Ravenswood Hospital. The economic condition has caused us to adopt this practice as we believe it is a very definite means of reducing the cost of hospitalization for those patients who need more than general floor care. We hope you will cooperate with us in making this plan a successful and permanent one.

20-hour duty nurse, at present, costs the patient...$9.50
12-hour duty nurse, at present, costs the patient... 8.50
24 hours of STAFF NURSING service will cost patient 4.00

The STAFF NURSING plan is as follows:

The patients' pavilion on the first floor, consisting of 16 beds will be devoted entirely to this service.

The Supervisor will have only carefully selected graduate nurses comprising her staff.

At no time will there be more than three patients per each staff nurse.

The price for the bed will be increased $4.00 —i. e., a $5.00 semi-private bed will cost $9.00 in the STAFF NURSING service.

Only contagious (or isolated) and mental patients cannot be admitted to STAFF NURSING.

We are sure your patients will be well pleased with this service and we welcome your personal reaction and comments.

Sincerely,

J. Dewey Lutes,
Superintendent.

STATE MEDICINE SITUATION IN CUBA WITH ITS GREAT HEALTH INSURANCE SOCIETIES QUITE OF A PIECE WITH SIMILAR PROPAGANDA RIFE THROUGHOUT THE UNITED STATES

Cuba, charming Cuba, would seem to suffer from as many land sharks on its vernal acres as from those deep sea monsters that abound in its encircling blue waters.

The Island of Cuba groans beneath the weight of a politically sponsored lottery and to other burdens has been added what competent authorities call "the present unhappy Condition of Medical practice in Cuba", adding that in Cuba, and more expressly in its metropolis of Havana, exists a "more intensive and extensive development of health insurance societies than anywhere else in the world."

Time and time again the editor of this publication has made the statement and backed it up, that health insurance is a blemished spawn of socialism stopping at nothing by which it can pollute and destroy the self respect and democracy of any civilized community. To some extent efforts of organized medicine have balked the arrant spoilage by communistic control of the practice of medicine in the United States, to the detriment of the profession and to the despicable harm of the general public welfare.

Unfortunately in this instance we have played the laggard in our vigil over our insular possessions and protectorates.

And as a consequence, behold the Cuban situation.

Dr. George H. Kress of Los Angeles, Calif.,

editor of "California and Western Medicine," the periodical owned and published by the California Medical Association and as such the official organ of the California, Utah, and Nevada Medical associations, during a recent visit to Cuba came upon the most appalling conditions. A survey and resume of these were published in "California and Western Medicine." It is of such moment and of such interest that it will bear lavish quotation. For it your editor asks close study. Cuban medical conditions we dare not ignore, both for our own interest and for that of the country, aye of the world at large.

Says Dr. Kress in part:

"Unhappy problems confront the medical profession of that island neighbor of the United States, Cuba. The unfortunate situation which exists in Cuba is not due to poor organization of the medical profession, for in Cuba, with its three million inhabitants, practically every one of the three thousand physicians is a member of the Cuban Medical Federation (Federaciôn Médica de Cuba). Nor are the problems complicated by cultist medicine, for Cuba has no cultist groups. As a matter of fact, the great majority of the physicians are graduates of the Medical School of the University of Havana, which school has given excellent courses of instruction.

"Somewhat more than a year ago, by order of the Cuban governmental authorities, the University of Havana was closed, presumably because of the active part which students had been taking in insurrectionist movements. The closing of the University has aroused very little indignation or adverse comment among members of the medical profession because Cuba at this time is supplied with physicians to more than amply answer its needs, especially under conditions now existing. Because of the present status of medical practice in Cuba, members of the profession complain with considerable feeling of the deplorable arrangements which take from them those economic rewards which are so important, if physicians and their families are to live and have the comforts that are necessary accessories for satisfactory and efficient practice of the healing art.

"From a somewhat hasty survey of the Cuban medical situation in that island, and in particular, in its metropolis, Havana, there is a more intensive and extensive development of 'health insurance societies' than can be found anywhere else in the world. This peculiar situation was called to the attention of the House of Delegates of the American Medical Association by Dr. J. M. Penichet when he attended the A. M. A. annual session of 1927 as representative of the Cuban Federation of Physicians (See *Journal American Medical Association,* June 11, 1927, page 1890). Dr. Penichet stated that: 'Six hundred and sixty-six individuals out of a thousand belong to the great Spanish Health Societies. . . . This leaves 334 probable patients to each physician. Supposing 10 per cent of this number have need for medical services each of us has only thirty-four patients to depend upon.'

"The following excerpt from Dr. Penichet's address is in harmony with what I have learned during conversations with medical men who are on the staffs of different hospitals, both in institutions supported by the government or by the 'health societies.' Quotation from the Cuban delegate's address follows:

"About fifty years ago the Spaniards in order to protect their immigrants, established a type of society which in the beginning answered the purposes for which it was created; the medical attention of the laboring class. But right from the start the lay patrons took command of the board of directors and soon afterward they also joined in the privileges of their employees. In a very few years a number of other societies were founded, as many as there are provinces in Spain.

"For the small amount of two dollars a month any member is entitled to the services of a specialist, and in case that his condition should require hospitalization, he will have at his disposal the very best equipped hospitals in the country.

"Besides, he can get a certain form of preliminary instruction and his family may participate in the different courses in music, painting, and sculpture. If he is a sociable man, his club is ready to receive him and there he will find, among the luxuries of these magnificent buildings, every possible sort of entertainment. If he does not care to deal with our national or foreign banks, he has a bank of his own. If he goes to moving pictures or to the theatre, he has every opportunity in the world to please himself.

"This would be an ideal conception for the laboring class; but the rich, the very rich, belong just as well to these societies. The highest representatives of the banking business, commerce, industry, government, and politics are the principal associates of these institutions.

"And it may surprise you to know that all the money to support all this comes out of their hospitals. Cuban physicians work day and night; they very seldom take

a vacation—perhaps just a few of the lucky ones may do so—and the salaries they get are something ridiculous. That is why we have founded the Cuban Federation of Physicians, to fight against these powerful trusts and free the medical profession. We have had already two strikes which we have lost, but we keep on fighting for the justice of our cause."

"There are about a score of these health societies, one of the strongest and the oldest being that known as the 'Centro Asturiano de la Habana.' It was founded on May 2, 1886, and carries more than 60,000 members on its rolls. Its hospital department is constructed on the pavilion system with buildings for the different specialties, laboratories and for administration, and all houses in a beautiful and expansive park.

"So also as regards the next oldest and largest of these societies, and in lesser degree the others. The youngest of the organizations was also visited and although only about two years old, it has some 20,000 members, and in addition to its central city office, has its hospital department in an old Havana mansion in one of the suburbs, with very good working facilities.

"The Centro Asturiano has also erected the 'Palace of Asturias' opposite the central park of Havana. This structure, built at an estimated cost of $5,000,000, is as handsome as many European palaces. So ornate is this building that its photograph is seen wherever postcards are displayed. The following legend is printed on the postcards:

"'This beautiful palace, of white stone, rich marbles, and irons, has recently been erected by the efforts of 61,000 associates, who, for the small payment of $2 monthly, enjoy the splendid sanatorium, clubhouse, school, library, gymnasium, ballrooms, amusements, etc. The furniture is the Spanish renaissance style, like the facade, is splendid. The canteen is wonderful and the dance hall immense. The entire building is artistically ornamented.'

"The Cuban Medical Federation (Federación Médica de Cuba) was holding on December 27, 1931, a 'national assembly' in which the deplorable state of medical practice, largely caused by these 'health societies,' was made the subject of earnest discussion. The newspapers *El Pais* and *El Mundo* for several days gave first-page display articles to the transactions of the assembly. In essence, the delegates to the assembly were striving to secure for services rendered in the homes of members of the societies a tariff in harmony with industrial fee table rates, based somewhat on the income of the families. As regards hospital work, a separate salary tariff based on nature and degree of service was proposed. It was also resolved that free medical consultations should not be allowed except for declared indigents.

"Last year the California Medical Association sponsored the resolutions to our national association to have a Bureau of Medical Economics established. That department of the American Medical Association is now functioning. It would seem proper to suggest that the board of trustees of the American Medical Association might well appropriate the funds that would make possible a thorough investigation and report on these Cuban societies, so that constituent state associations such as California, might have such information for use in properly supervising within their own boundaries the development of similar organizations. We happen to know that the archives of the A. M. A. are practically barren of accurate or detailed information concerning these Cuban societies—which should not be."

Truly, we are not so civilized as we think! Here is this frightful condition existent in Cuba, our next door neighbor, one might almost say our younger sister, and nobody seems to have been at all alarmed about it. Governmental state medicine in Europe with its universal lamentable failure,—witness England's dole and panel systems, and the German "Krankenkassen" have caused us all indignation and worry, and yet, here is little Cuba right by our side in a worse shape than any. And let it not be forgotten that this "tremendous well organized pseudo-state medicine situation of Cuba" with its great "health insurance societies" are quite of a piece with similar propaganda rife throughout the United States.

Those health insurance societies of Cuba with their lay boards of directors find counterpart in those lay directed and endowed foundations, corporations and institutions practicing medicine, with the part pay clinic and all the rest of the subsidized socialistic schemes that this magazine has been fighting for decades. And if we do not put a stop to it, and that soon, if we do not nullify this frightful communistic and bureaucratic trend we may expect within the next few years a dose of Cuban socialism that will be

far less welcome than some of the imported Cuban rum that finds such excellent market on our shores. Somehow contraband is always a successful American import!

The Cuban medical profession is fighting for its very existence.

And a similar struggle is not far off from the medical profession of Illinois and of every other state in the Union if we permit ourselves much longer to be shamefully "asleep at the switch."

HOW RECONCILE THIS WITH HIPPOCRATES?

Here is a copy of the Code of Ethics of the Medical Federation of Cuba. These offer interesting perusal in the light of the existence of these health societies, since practically every graduate physician of Cuba belongs to La Federacion and has signed this sealed code of ethics.

MEDICAL FEDERATION OF CUBA

I swear by my honor to comply always with the code of ethics of the Medical Profession of Cuba.

I swear by my honor always to respect the findings of the Medical Federation of Cuba.

I swear by my honor never to have any professional interchanges with nonaffiliated members.

CODE OF ETHICS

Article 1.—Every licensed graduate physician and colleague (médico colegiado) is obliged decorously to exercise the profession, redounding to his prestige, consideration and respect, so as to comply with the scientific, ethical and social mission of the physician, placing the health and well-being of the patients ever above any other interests, and to enlarge constantly his scientific knowledge.

Article 2.—The graduate physician colleague must never, directly or indirectly, utilize the press—other than a medical journal—to make public the results and successes of his profession, nor announce any methods of his cures, nor guarantee results along the lines of specific medical systems, nor to extend certificates recommending particular druggists. Advertisements may make mention only of the specialty, title and professional duties of the physician, his hours of consultation, and address.

Article 3.—The graduate physician colleagues will determine their professional fees in accordance with the importance of the services rendered, and with due regard to the economic capacities of the clients; and are obliged absolutely to reject any contract or commission whatever, or recompense of any character in division with any person, whether physician or not.

Article 4.—No graduate physician colleague will accept the offer of an appointment, commission or charge, whether remunerated or not, to relieve another physician from obligation, without a previous interview in which he has obtained acquiescence; and, in case of disagreement, without the approval of the medical college group of which he is a member.

Article 5.—No graduate physician colleague may visit a patient that is in the care of another graduate physician colleague, without previous authorization of the same excepting in cases of urgency, when the assisting physician must inform his colleague as quickly as possible of the fact.

Article 6.—Every graduate physician colleague is obliged to combat with all means at his command any illegal exercise of the profession; informing the medical college group of which he is a member of any such cases that come to his knowledge, whether practiced by individuals foreign to the profession or by persons who, although having a professional title, are not legally authorized to practice medicine.

Article 7.—The graduate physician colleagues are compelled to communicate in writing to the medical college group in which they are registered whatever illicit act comes to their knowledge, practiced by any physician in the exercise of his profession, and will bring all the proofs obtainable referring to the case.

Article 8.—The graduate physician colleagues are obliged to keep inviolable the secrets obtained in the exercise of their profession, unless these be of such a character that they must needs interfere as skilled practitioners in questions of crime, or if their medical skill is put in jeopardy. If the honor, life and interest of any third person be imperiled through the protection of such a medical secret, or if the anticipated result of the interested be not realized, then it becomes a matter of discretion on the part of the physician whether to safeguard or not any longer such a secret.

Article 9.—Every graduate physician colleague in the discharge of a matter of state, province, municipality, or private institution nature is obliged in the exercise of his commission to observe the greatest circumspection with his affiliated colleagues without imperiling administrative discipline, and must try, in speech and writing, not to use phrases that might jeopardize or lower in any way professional dignity.

Article 10.—The graduate physician colleagues are obliged to comply strictly with the rules of professional etiquette in accordance with those of the medical college groups of which they are members.

[Seal]

(Signed).....
Member Federación Médica de Cuba.

INCREASE IN MATERNAL MORTALITY IN HOLLAND

"Although according to official statistics Holland counts among the countries with the lowest maternal mortality, since the period 1916-1920, a considerable increase in the death rate has been noticed. The mortality following infection was about 7 per 10,000 confinements. The total mortality after confinements was 20-30 per 10,000. These figures were obtained from various local sources and correspond on the whole with of-

ficial statistics. It was difficult to find with certainty how this rise of mortality was brought about, but an important part may have been played by an increase of the number of miscarriages or induced abortion and sepsis, by a relatively larger number of primiparae, and possibly by late marriages."

Correspondence

IS THE PUBLIC HEALTH INSTITUTE A FAILURE?

Chicago, Ill., April 25, 1932.

To the Editor: I have before me the statement of the "Public Health Institute of Chicago," showing some figures and other information in a comparable way for the years 1920-1931. While it cannot be expected that they show complete statistics of their operations, I believe enough is shown, presuming that the figures are correct, to show the misleading and palpable failure of their organization.

I will not go into the facts of expensive treatments, failure of treatments, and other things of annoying nature which patients of theirs have experienced and have later gone to private practitioners to be treated, but rather it is my intention to criticize their printed word.

Page four of their booklet shows the number of treatments for the year 1920 to 1931. It shows in this respect that it has fallen since 1929 back to the number they claim in 1923, namely: 275,000. It shows conclusively that the patients they attracted were people who had money in the years 1928, 1929, being peak years, with 450,000 treatments; years when the public had money to spend. Now, when they have not, the number has fallen to almost half, due to one thing—lack of cash. I believe this proves conclusively that their patients were attracted by the advertising alone and not by cheaper or more efficient service.

On page five they appeal to the medical fraternity for support through some misleading and insulting statements, so quote portions:

1. "Because it is organized for public service, not for profit, under trustworthy management and for people who cannot pay private rates."

Is not every doctor's office and hospital organized for public service, and whether or not for profit matters not to the patient. Their report shows they made profits every year except 1931.

2. "Because the institute conducts the treatment of venereal patients in an exceptionally efficient and thoroughly honest way."

A very insulting inference. Does the private physician who went to school for a dozen years or more and spent thousands of dollars feel any different about it? If education makes physicians dishonest it is time we let merchants and bankers who have never been under investigation practice medicine.

3. "Because the institute through ethical advertisements points out the dangers, etc., of venereal diseases and directs them to physicians or medical agencies where they can receive *proper treatment.*"

Another insulting inference. The twenty thousand dollar doctor with fifteen to twenty years' study back of him is incompetent. Their hirelings who probably failed in private practice are competent.

In another part they say that the public would be pauperized by private physicians. Those private physicians who have treated former patients of the Public Health Institute will know how well pauperized they were when they got them.

The inference on page six is that all doctors who do not charge high fees are incompetent or lack facilities for treatment, so they, by advertising, must tell them to come to them.

A statement is made that 95 per cent of persons cannot afford to pay the private practitioner the minimum expense for treatment.

It would be very enlightening if the Public Health Institute would publish the charges made to their patients so the private physician could compare it with his own. Their expensive advertising surely must make the charges exorbitant. The private physician through competent service pays nothing for his advertising.

On page seven it states that patients who can afford to pay prefer a specialist, all others generally prefer a clinic. The family doctor knows better than that.

The financial statement on page eight lacks details such as *how much was spent for advertising.* All laudable features of the institute, however, are there no doubt. Such things as number of patients quitting as uncured or dis-

gruntled with the method of treatment are not mentioned in the booklet.

Conclusions drawn by the writer:

1. The Public Health Institute exists solely by advertising.

2. It exists also solely on financial condition of the public like any other institution.

3. That because of the business depression people go to the cheapest place where they can receive efficient treatment. Evidently the Public Health Institute is not cheapest and best or their number of patients would not be reduced by almost half.

4. That the number of people has not been reduced who suffer from venereal disease, yet the Public Health Institute suffered a reverse in number of patients and income greater than many profit seeking institutions.

5. That medical institutions not favorable to the public good and not sponsored by the rank and file of the profession will go down to an untimely grave.

Such is my indictment of the most egregious and presumptuous enemy of organized medicine.

A. H. Hauber, M.D.

2800 Milwaukee Avenue.

RETROBULBAR NEURITIS DUE TO THALLIUM POISONING FROM DEPILATORY CREAM: REPORT OF THREE CASES

William Mahoney, Boston (*Journal A. M. A.*, Feb. 20, 1932), reports the case histories of three patients who were referred to the neuro-surgical service of the Peter Bent Brigham Hospital by ophthalmologists because of failing vision and suspected chiasmal mischief. Each of these patients gave a history of use of a proprietary depilatory, Koremlu Cream, which has long since been brought to the attention of the Bureau of Investigation of the American Medical Association, and on which the bureau reported with regard to its constituents, all this because of the appearance of peripheral neuritides in people who had been using this cream. The review indicated that the active principle was thallium and the percentage of the acetate present was 7.18, an unusually bold potency in view of Sabouraud's earlier caution to use it so sparingly and in a strength no greater than 1 per cent. In presenting the proprietary cream, the distributors advertise it most attractively, convincingly, and with absolute assurance that no harm will follow its use. The author's purpose is to point out the dangers that follow long-continued use of this preparation. The three examples presented were patients who entered a neurosurgical clinic as "intracranial tumor suspects" and were found to have an advancing retrobulbar neuritis. Their failing vision has been checked and improved by discontinuing the employment of what, therefore, is the most probable source of the disorder.

INFERTILITY AND STERILITY: AN ANALYTIC STUDY OF THREE HUNDRED COUPLES

Irving F. Stein and Michael L. Leventhal, Chicago (*Journal A. M. A.*, Feb. 20, 1932), examined and treated 300 couples presenting sterility problems. On the basis of an analysis of the results they stress the importance of a rational sequence of investigative procedures. They excluded from the diagnosis of sterility all couples who meet with the fundamental requisites of fertility even though married three years or more. These were grouped under the classification of infertility. Female causes were found in 89.4 per cent, male causes in 28.8 per cent., and both male and female in 18.1 per cent. of the sterile matings. The outstanding female causes were obstructions of the fallopian tubes, chronic endocervicitis, and uterine underdevelopment. Pathologic conditions leading to aspermia and necrospermia were chiefly the male faults. Tubal patency tests were carried out in 206 women in this series. In the infertility group they were done in 100 per cent. and in the sterility group in 61.3 per cent. of cases. The interpretation of apparent tubal obstruction is discussed and the value of roentgenograms, combined uterosalpingography and pneumoperitoneum being used, is emphasized. In the medical treatment of sterility one new substance has been found of value; namely, a preparation of the female sex hormone. The surgical treatment of sterility has undergone complete revision. Linear cauterization for chronic endocervicitis was the most frequently used method in our series. Salpingostomy was done in five cases, carefully selected, with subsequent pregnancy in two. Pregnancy occurred in 58 women after the investigation and treatment, or 19.3 per cent. for the entire series of 300 women. In those grouped as infertile matings, pregnancy resulted in 26.3 per cent. and in the sterile matings in 17.3 per cent.

Soon he (the doctor) will run his own baby station, his own health center, his own anti-tuberculosis clinic, in other words, his own health clinic, and so regain the post that is rightly his. . . This service is within our grasp if we accept the opportunity and take the lead.—*Bulletin of the Medical Society of the County of Kings.*

A retired circuit court judge says that justice is blinder today than ever before. Government alcohol may have a lot to do with it.—*Judge.*

Flirtatious girls make very poor teachers. Naturally. If they can't make their eyes behave, they can't make their pupils behave.—*Arkansas Gazette.*

Government is not mere advice; it is authority with power to enforce its laws.—Washington.

Original Articles

MEDICINE AND BIG BUSINESS*

R. R. Ferguson, M.D.
CHICAGO

During the past few years many articles and editorials have appeared in newspapers and magazines in this country on the high cost of medical care—on hospital management—on public health education—on State Medicine—on our code of ethics and on medical advertising. Lately some scurrilous articles have appeared in the *Ladies Home Journal,* the *Country Gentleman* and other well known magazines which were written by men of little scientific or practical medical knowledge and having a poor command of the English language.

Most of these articles suggest remedies sponsored either by editorial writers, some endowed foundation or self appointed committee, or the writer for the newspaper or magazine.

Foundations and corporations with unlimited capital have entered the practice of medicine in competition with the private practitioner with the idea of giving good service at cut prices. Even our large universities have established pay clinics in competition with their own graduates while big business men have allowed their names to be used by institutions whose chief source of obtaining patients is through paid newspaper display advertising rather than good service, all in direct competition with the private physician who can not and does not desire such advertising.

Hundreds of other organizations which have become health conscious in the past few years have joined the ranks of those who wish to improve the nation's health and are practicing medicine through the establishment of numerous clinics far removed from any teaching institution.

Even the United States Government is enlarging its practice of medicine, as it is enlarging its other paternalistic bureaus—to a degree never before dreamed of by any nation on earth, not excepting Soviet Russia. I refer to the Veterans Expansion program in hospital building at a cost of over $3,500 per bed for the free treatment of illnesses not contracted in line of duty, and at a time when the great majority of hospitals in the United States are only half filled.

Talk about State Medicine—why! it is already here and has gained its foothold through the same social agencies which are undermining business in general. Our business men want less government in business and more business in government. The Medical Profession wants less Government Medicine and no socialism in Government.

In other words, big business seems to be anxious to direct the practice of medicine, or to direct the profession in business methods for the practice of medicine. The medical man pleads guilty to the charge of being 90% scientific any only 10% business and will therefore gladly welcome some well founded business advice. But where shall he turn for this advice? To the American banker? Hardly, when the banker has demonstrated his lack of sound judgment in his own business over a long period of years. To the big business man? Hardly, when we are having over 30,000 business failures per year, while the great majority of those still in business are doing about 20% of their usual trade. To the stock broker? Hardly, when all of us have some one hundred dollar stocks which are now worth one dollar. To the realtor? Hardly, when our gold bonds and mortgages have all but vanished into thin air and our real estate remains a drug on the market.

Where, then, shall we turn for some sound business advice? Before allowing or even requesting big business to direct or even suggest remedies for the practice of medicine, let us examine further into the causes of the terrible debäcle in which big business finds itself today; and by big business I include the banker, the broker, the realtor, and the big business man.

Just what are the causes of the present demoralized business conditions and why are we not now on the road to prosperity? How long will this depression last? Who knows? If there is a Moses in this country, let him come forth and lead us out of the wilderness. The Democrats, after groping around in the dark for some twelve years but more especially for the past two years, have now united, not on the

*President's address delivered at meeting of Illinois State Medical Society, Springfield, May 18,— 1932.

prohibition issue, nor on the tariff, not even on economy, but on what they think is the one great outstanding cause of our present dilemma, and have placed the blame squarely on the shoulders of a Republican President,—and for various reasons.

Now let us see what the Republicans, economists, statesmen and bankers have to say on the subject.

The President cast the burden of the disaster on troubles abroad and read in the Annual Message that "our difficulties during the past two years have plainly originated in a large degree from these sources." Our statesmen say it was the world war, over-production, under-consumption. Others blame the stock market crash; our economists say the inflation of commodity prices, world market upset, Russian wheat dumping, and an hundred other causes. Let me quote George Leighten in *Harpers Magazine*, April, 1932.

"What can the citizen think as he listens to the utterances of Senator Watson and Secretary Doak? What of the bland assurances of Mr. Fess and Mr. Smoot? What says the greatest secretary of the treasury since Alexander Hamilton? What rugged verities are spoken by Mr. Schwab and Mr. Taylor? It may be summed up in one word: COURAGE! If we can only hold on courageously, things will come out all right in the end, and prosperity will be back again, this time to stay forever. Everything is all right. The only trouble is that we won't believe it. And from all this we can draw but one conclusion: The captains of industry and cabinet members have learned nothing.

"We are up to our neck in sick industries, unemployment, and a government deficit. We are committed to a policy of drift, for we don't know what else to do. Any number of plans have been brought forward, but none of them seem to have worked. Our economic system is weaker than it was, and so far nothing is in sight to strengthen it. Even the Dean of Harvard Business School is willing to admit that 'Capitalism is on trial, and on the issue of this trial may depend the whole future of Western civilization.'"

From the *Literary Digest* of May 7. "One big trouble is that some men of large wealth, brooding over the big drop in their securities, are so pessimistic that they are doing more to create gloom than the armies of the unemployed." And it is the rich, "who are unwilling to trust in their country and put their money at work, who are delaying what must be a slow return to prosperity."

From April *Mercury* by Shephard, "nearly all of us were misled by the imbecilic messages of cheer which emanated from New York and Washington. They could not realize that the administrative policy of thousands of small and middle sized concerns had been permanently changed as a result of the gruelling experience of 1930. When a college graduate, recently the assistant buyer in a huge department store, rakes the leaves from a bootlegger's lawn at 30c an hour, nature and her immutable laws seem curiously remote. Today our friends are suffering, the new unemployed are our own business friends and associates, our equals and superiors, tomorrow it may be us."

At a recent dinner in London, Ambassador Mellon said, "None of us has any means of knowing when or how we shall emerge from the valley of depression in which the world is now traveling. But I do know that, as in the past, a day will come when we shall find ourselves on a more economic foundation, and the onward march of progress will be resumed."

On April 15 Babson of Boston said, "No one can possibly say just how long a time will be necessary to put business back on its feet, but signs are not lacking that this process is under way. It may be two years, a little less or a little more, before we reach the solid ground of stability."

Pres. W. C. Teagle, of the Standard Oil Co. of New Jersey, only last Friday made the following statement to his board of directors: "The unemployment situation is not one that is going to cure itself. Enforced idleness among millions of breadwinners and the fear of wage cuts on the part of those that work stand in the way of returning confidence."

August Kessler, managing director of the Royal Dutch Shell group, who is in New York, made the following statement only last week: "In intensity, and therefore in duration and effect, no previous crisis is comparable with the present one. The interdependence of economic factors never was so pronounced as today. The old remedies no longer apply. It is a hopeful sign in this present crisis that a large number of prominent men in big industries realize the enormous responsibility which rests upon them. What is needed is constructive cooperation instead of 'dog eat dog' method which is aggravating the crisis and which must end in a re-

duction of the living standard for all and everybody."

Mr. Schwab only recently said, "I have always thought that the question of money in my life would never come up. But let me say that there are no rich men in America today. We don't know where we stand. The highest type of riches as personified in this country today has practically vanished, and men are afraid to look at their ledgers to see if they are worth anything or not. We don't know whether the values we have are going to be real values next month or not. But I have never lost the feeling that things will ultimately be all right." This is about the way we all feel today only on a smaller scale. Yes, we will probably muddle through somehow.

In other words:

During the past two and one-half years big business, including our national leaders in both parties, has shown its utter lack of knowledge of its own affairs; its economic and business principles gleaned over a period of one hundred and fifty-six years of experience, as well as its advertising structure, have all but completely broken down, while little or nothing has been done to stem the tide of ruin and destruction. The great cry has gone up that the disease must run its course, which sounds like the medical profession away back in the dark ages when medicine was not a science, and its practice was but an art in name only. May I refresh your memory with a few of the things which have occurred under the leadership and direction of big business in two and one-half years. Seventy-five thousand business failures and thousands of shops closed, millions of men and women idle and hungry, banks closed—one thousand three hundred and twenty-six of them in 1930 alone, with deposits of eight hundred and fifty millions of dollars.

Six thousand five hundred banks closed in the last ten years, over seven million depositors and one hundred and twenty thousand bank stockholders have lost or have tied up over two billions of dollars in ten years.

Suicides by the hundreds, mental and physical wrecks through worry and fear which far surpass anything experienced during the darkest days of the World War. Bread lines in every city and even in the country. Millions of dollars worth of new bonds floated to care for the needy, and yet no man or combination or big business men could stay the onrush. Even the President and his Cabinet, together with Congress and hundreds of statesmen have had little or no effect in stemming the tide. The shock troops in the form of the Reconstruction Finance Corporation, The National Credit Corporation, the Glass-Steagall Federal Reserve Bank Bill, and the Anti-Hoarding Campaign were shot down by the machine guns of depression while the unbalanced budget brought a determined attack on the American dollar and the gold standard, carrying the stock market to a new low for all time.

Down, down we went scraping on the bottom of despair for weeks and months, listening to big business in the guise of Christian Science who soothed our pain by informing us that the depression was all in our hands, instead of giving us a good stiff hypo; that the bottom had been reached, instead of amputating a leg; that prosperity was just around the corner, instead of draining our chest, and suggesting such remedies as—buy now to end the depression; spend your savings to help business; don't even be thrifty, don't hoard your savings, and an hundred other patent medicines all to no avail. The disease must run its course.

All the experiences of past depressions (and there have been many) have taught big business almost nothing of practical value. After two and one-half years, business is still groping in the dark, feeling the pulse and looking at the tongue, and then throwing up its hands in despair instead of using some newer methods of diagnosis and treatment. But where are the newer business methods of diagnosis and treatment such as medicine boasts? Apparently there are none. Prevention is the watchword in modern medicine and should be the watchword in modern business. What is there in business to compare with medicine in 1932—such as typhoid inoculation, diphtheria antitoxin, insulin, T. A., smallpox vaccination, meningicoccus and rabies serum, antitetanic serum, eradication of the mosquito to prevent yellow fever and malaria, and dozens of other preventive measures? Nothing! Absolutely nothing! Perhaps figures will be more convincing. In the seventies, for every 100,000 population, 304 died from T. B. In

1931 only 61; typhoid 172—in 1931 only 2; scarlet fever 230—in 1931 only 3; cholera infantum 154—in 1931 only 10. The baby death rate in the eighties was 433 per 1,000—today it is only 60. Can business boast of such a record?

And again let me ask, where were their so-called modern business principles, their up-to-date code of ethics, and why were they not applied when the first symptoms of disease appeared early in 1929 instead of 1932? Quoting Leighton again, "The same men were in office when the crash came that had been there for years, and barring the fatalities of the last election, they are still there. In business the same captains of industry, the same banking authorities, the same investment counselors are holding onto their jobs. It is true that the mortality has been great, but there are a good many fat, prosperous names left. When the storm came, these men, who had so industriously predicted prosperity eternal and who had diagrams and charts to prove it, were helpless. We could have stomached their helplessness with far better grace, perhaps, if the great ones had been willing to admit it. But they were not. We ourselves had been crippled; so had our neighbors. It was impossible for us to conceal the consequences of our idiocy, and there was nothing to do but make the best of it and try to start again. But the captains and the senators and the cabinet members could not admit their folly or their helplessness.

"And so we were treated to a most extraordinary spectacle. We saw these men, like a troop of savages, attempt with chantings and loud cries to abate the wrath of the storm. It is needless to rehearse their shibboleths and incantations, their magic words 'optimism' and 'just around the corner.' We know them all by heart and we know they didn't work. But now, as we move into the third year of hard times, we discover that these gentlemen are still positive, still knowing, as farsighted as ever they were. We learn that they had no share of responsibility for the disaster. The eminent banker who declared twelve days before the crash that 'the industrial condition of the United States is absolutely sound and our credit system is in no way critical' is still authoritative and serene. Recently he appeared before a Senate committee and testified that the extravagant lending of money to corporations and individuals for speculation 'should have been stopped ten years ago.'"

He declared for freedom of the individual to make mistakes.

"A remarkable statement in the face of an army of bankrupts and an ever-growing horde of unemployed. Is it for this freedom to make mistakes that he and his colleagues plead for public confidence and support while every available means of publicity is invoked to cajole money out of hiding? While these eminent men shudder at the thought of any sort of 'government in business' and are constant in their condemnation, they do not seem to remember the days when they gratefully heard Mr. Coolidge speak confident words that sent a hesitant market soaring; there is never a recollection of their thankful hearts when Mr. Hoover rendered such splendid service in toning up the investor's courage. When the citizen hears some of these financial tribunes belabor the government as the source of all their woes, he feels a little sad at Mr. Hoover's plight. It is no fun being President during a panic."

Perhaps even a well-tried code of ethics and a well organized national business organization such as the A. M. A. supported by the State Associations and in turn by the county or township units could have turned the trick. And where were the local chambers of commerce, the local manufacturing organizations, and the United States Chamber of Commerce in 1929?

I will tell you where some of their business men were—they were allowing their names to be used in the illegitimate practice of medicine and to foster foundations whose object seems to be the destruction of organized medicine, instead of tending to business.

The private practitioner of medicine is the backbone of preventive medicine in this country as you all must know. All the clinics, institutes, medical foundations, and Public Health officers would be helpless without the 150,000 practicing doctors in the United States who are constantly on the firing line. And yet some institutes, some universities, and some corporations are making the lot of the doctor of medicine a very difficult one by annually diverting millions of dollars away from the practitioner and making it all but impossible for him to live.

Again: Why are corporations and trust companies not allowed to practice law? Why! For the simple reason that the lawyers have a law on the statute books preventing corporations and trust companies from practicing law. And yet when the Illinois State Medical Society endeavored to place a law on the statute books of Illinois prohibiting corporations from practicing medicine, the lawyers, more particularly the lawyers representing the Public Health Institute of Chicago, were in Springfield to oppose

it. We lost as usual. A little cooperation from the lawyers would help medicine.

Again: Why are the postal savings limited to $2,500 per person? And why are they not raised to $5,000 or even higher? Why, because the National Bankers Association is opposed to the raise, and state that every bank in the country would be forced to close its doors if the limits were raised.

The bankers of the country are evidently well organized for the protection of their own business and are not prone to make changes in the banking practice detrimental to themselves even though such changes could be of great benefit to the depositors. For my authority may I quote J. M. Daiger from *Harpers,* April, 1931, page 519:

"Unfortunately, the history of neither the last decade nor any preceding period gives the depositor reason to assume that our bankers, through the National Bankers Association, or by any other means of joint effort, will undertake to solve the problem of bank failures and provide an effective remedy against their failure.

"Banking reforms of nation wide scope, and also the correction of banking evils, are not initiated by banks, but come slowly through hotly contested legislation with the banks solidly aligned as a unit against any change in the banking laws."

We have such a spectacle taking place at the present time in Washington on the Glass banking bill. Quoting from the *Chicago Tribune* of May 10, "Sensational charges of the prevalence of unlawful and reprehensible banking practices, which contributed largely to the economic debäcle of 1929, and of the responsibility of federal authorities for the exploitation of the investing public fell unchallenged from the lips of Senator Carter Glass when he opened the debate on the Glass banking reform bill in the Senate today.

"The senator assailed the federal reserve board as a weak and vacillating body that has maladministered the law, permitted the financing of speculation, allowed the virtual creation of a central bank and indulged in foolish and dangerous efforts to influence commodity prices. Senator Glass painted a lurid picture of the great banks forcing billions of dollars of worthless foreign securities upon the American public through subservient country banks, all with the blessing of the American state department in defiance of a senate injunction to the contrary."

Might it not be wise for our bankers to study the English system?—not one bank has closed in England during this depression.

Again: Why are the newspapers so opposed to national advertising over the radio? Why, because it may injure their business. Here is a headline "Publishers Vote To Wage War on 'Unfair' Radio—legality of advertising to be investigated," quoting N. Y., April 23, '31—"The American Newspaper Publishers Association, at its forty-fifth annual convention at the Hotel Pennsylvania, today voted to take direct action toward curbing the allegedly unfair competition of the radio with newspapers. Three resolutions were adopted. The first instructed the directors of the organization 'to investigate the question of the legality of radio broadcasting.' This was interpreted as a move toward possible action against the radio combines under the anti-trust laws."

In speaking for the resolution Colonel McCormick of the *Chicago Tribune* said, "Everybody wants cheap advertising. The cheapest that he can get is by buying an hour on the air and getting his program advertised free in almost every newspaper in the United States. Radio itself is not a good advertising buy, but the matter in newspapers about radio programs is a good buy. I suggest that we do not allow broadcasters to collect cash for advertisements we are giving their clients." End of quotation. In Colonel McCormick's words, I suggest that we do not allow corporations to collect cash for medical service our doctors are giving their clients.

Now let us hear from radioland. M. H. Aylesworth, President of the National Broadcasting Company, told the Princton conference in session at Whig Hall, April 24, 1931, that "if newspapers stop printing the programs of broadcasting stations, it may be necessary for broadcasting stations to go into the publishing business, and that the newspapers, further, would run the risk of losing all or part of the $31,000,000 that radio supply houses spend annually for advertising"

Wouldn't it be nice if the Medical Profession were sufficiently endowed so as to be able to say to the big business man: If you don't stop practicing medicine, we may be forced into business. Or the banker—we may be forced into the banking business. God forbid such a catastrophe, but it would be no more a catastrophe then when we see bankers, business men, law-

yers, and mail order houses under the protection of a corporation practicing medicine.

And now comes the greatest shock of all. Ever since the Life Extension Institute entered the practice of medicine through the urinary tract we have been waiting for the mail order houses to do likewise. At last it has arrived. According to the Journal of the A. M. A., April, 1932:

"It is a new departure for a mail order organization of the scope of Montgomery Ward & Company to undertake such a service, and it is sad indeed that the service once undertaken should be so unreliable as is the service they conduct. It actually becomes a menace to the user. It is difficult to surmise why Montgomery Ward & Company embarked on this jaunt into the field of medical practice, for only recently evidence has become available that the company which makes their urine examinations is actually owned by Warner's Renowned Remedy, a firm which manufactures a goiter remedy and which deals largely with department stores and mail order houses. Certainly the ownership of the firm cannot improve its standing with the Chicago mail order house, nor can it be considered as in any way gilding the lily. It is to be hoped that this demonstration of the failure of the corporation to judge what is sound in the medical field will cause it once and for all to confine its business efforts to the sale of materials and goods rather than medical service."

On the other hand,

If big business men and the founders of endowed foundations would pay all their workers an adequate living wage, even in good times, it would not be necessary for sixty-five or more health organizations in the state of Illinois to be practicing medicine to the detriment of the private practitioner; nor for foundations, corporations, nor universities to offer their own workers free or part pay medical service. These workers, receiving a living wage, could then be taken care of by their friend and physician whose patience and skill are always the highest type of medical service.

No, gentlemen, the members of the Medical Profession do not intend to sit by and allow the practice of medicine to be taken over by corporations, institutes, or lay groups. The Medical Profession claims the same right to protect itself from the unfair competition of corporations practicing medicine, and from the encroachments of lay medical groups as have lawyers, bankers, business men, publishers or the radio broadcasters, but it is a sad commentary on justice that we must discipline our own members for the wrongs of big business.

The privilege to practice medicine is granted to the individual by the state after years of preparation and examination, which privilege should not be lightly turned over to a corporation that wishes to practice medicine by proxy. I am in favor of the Illinois State Medical Society instituting proceedings to test the legality of a corporation to practice medicine in this state at an early date. Corporations have been denied the right to practice medicine in some states, why not in Illinois?

We have nothing to lose and much to gain. If we succeed in putting a stop to corporations practicing medicine, our problem will be partly solved, and we can then carry medicine and surgery to all the people of the State in an ethical manner. The solution of giving all the people adequate medical care can and will be worked out by the Medical Profession irrespective of big business, and it is up to the State and County Medical Societies to formulate and carry such a plan through to a successful conclusion. And since education is the first step in such a plan, we have already made a good beginning through our Educational Committee.

On the other hand, if the corporate practice of medicine is upheld by the courts of the state, and if the corporate practice of medicine is the solution of all public and private health problems, and is the means par excellence of giving all the people adequate medical care at moderate prices, then the Medical Profession should incorporate and take over the corporate practice of medicine; and if corporations practicing medicine must advertise to obtain patients, then let the Medical Profession incorporate and advertise for this same class of patients. The public would soon determine who are the experts on health and the lay corporations would soon be compelled to fold up their tents and steal away in the night, or better still they will re-incorporate for the prevention of the next depression.

I would even go farther. Let every County Medical Society or several adjoining counties in the state of Illinois form a separate corporation of its own and take over the corporate practice of medicine and surgery in their respective districts—let them take over all the medical work of the poor farms, the County Tuberculosis

Hospitals, the treatment of the crippled children, and the treatment of the indigent poor. But have the County reimburse the corporation a reasonable compensation for the work the same as they do their county commissioners, their lawyers, teachers and welfare workers.

The private practitioner could then continue to fill his important part in every community without the fear of molestation by corporations, institutes, mail order houses, or lay medical clinics.

Unless something constructive is done by the Medical Profession at once to curb the corporate practice of medicine by business men and other lay groups either for profit or not for profit, we will see corporations spring up all over the state of Illinois, and the Medical men will be sitting on the side lines instead of controlling the corporations. If corporations controlled by laymen can build up a profit of a million dollars in a few years, why can't the Medical Profession do likewise?

Since big business has demonstrated its inability to take care of its own affairs on numerous occasions during the past 156 years, we can hardly look to them for much help in the practice of medicine. Gentlemen, it looks like we will have to continue to practice Medicine and maybe take over Big Business.

Let us now turn to an editorial in the *Saturday Evening Post* of March 21, 1931, in which the editor complained that Medical men are not teaching the public on Health problems, and mentioned some Sunday afternoon public lectures in Boston by men of wide repute. Why, bless your soul, Mr. Editor, the Illinois State Medical Society has been carrying on a Department of Public Health Information for more than six years on a tremendous scale; so great, in fact, that it approximates or surpasses any national organization, either business or professional, in the valuable information it contributes to public welfare. All this is done at the expense of the Illinois State Medical Society and represents many thousands of dollars annually.

Just to mention a few of the things the I. S. M. S. is doing for the public—From 300 to 1,000 public speakers per year to business organizations, industrial groups, high schools, noon-day luncheon clubs, women's clubs, parent-teacher, and many others. 400 to 500 radio talks over well known radio stations, reaching approximately 20 million people per year; 15,000 newspaper articles to more than 100 papers; package library; films; moving pictures; debating societies; lay medical groups; and in many other ways giving the public valuable information on health problems. If the *Saturday Evening Post* or the *Ladies' Home Journal* or even Big Business has any suggestions to make, they may step forward.

However, may we suggest to the editor of the *Ladies' Home Journal* that he stop publishing articles which tend to undermine the confidence of the people in the Medical Profession, and replace them with constructive, educational articles written by men of unquestioned scientific and medical knowledge.

If Scientific Medicine should break down at any time as Big Business has just done, and as Big Business will continue to do at irregular intervals, disease and famine would again stalk forth as it did during the middle ages, and the ruin and destruction would be a thousand fold greater than when big business fails. Medicine is founded on science and ethics; business seems to be founded on empyrical knowledge and advertising, and a great deal of both. The highest type of medical service is that which always exists between the individual patient and his physician, while the corporate practice of medicine is only a makeshift at best. Perhaps medicine has something to offer big business in the way of organization and in the manner of living up to a real code of ethics.

In closing, may I admonish every member of the Illinois State Medical Society to keep his county society well organized, numerically, scientifically and economically in order that he may serve, first his clientele, by using the very latest in scientific medicine; second the public, by safeguarding their health and teaching them the laws of health; third, his state society, in combating vicious legislation detrimental to the public welfare and the Medical Profession; fourth, the American Medical Association, which is working for his welfare.

To the young men and to those just entering the practice of medicine: hold fast to that which is good; next to your Bible our code of ethics is the cleanest and most wholesome code of any business or professional organization in the

world, and is just as applicable to your conduct today as it was when Hippocrates penned it 2,000 years ago. Temptations will come by way of emoluments and by way of politics to turn you from your own medical organization with an offer of something better, but remember that none of them can offer anything comparable to the love and respect of your fellow-practitioners in medicine. I would rather have the love and respect of those who made me what I am, than the fame, name and monetary considerations of any endowment, institute, corporation, or foundation in existence.

PARENTERAL ADMINISTRATION OF LIVER EXTRACT IN POSTOPERATIVE TREATMENT*

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When Whipple, Hooper and Robscheit,[1,2] demonstrated the favorable influence of liver feeding on the production of hemoglobin and red blood corpuscles in dogs rendered experimentally anemic, they laid down foundation for much of the recent work both in pernicious anemia and in secondary anemia. Further impetus to research along these lines was given by Minot and Murphy[3-6] who applied the findings of Whipple and his co-workers to the treatment of pernicious anemia in man. Their discovery inaugurated a new era in the treatment of this mysterious disease. Cohn[7-10] and his collaborators succeeded in isolation from liver of a fraction containing the active principle in high concentration; this is so-called "fraction G", commercially available under various names. Minot demonstrated that a rapid remission in pernicious anemia could be brought about by the intravenous administration of a liver extract. Castle and Taylor[11-13] subsequently described the clinical use of liver extract.

The introduction of it into medical practice marked the beginning of a distinct epoch in the therapy of pernicious anemia but it also stimulated the study of the value of this extract in the treatment of many other conditions. Becher[14] showed that in certain renal insufficiencies the liver diet may possibly stimulate liver activity and help detoxification of products of intestinal putrefaction. Schrumpf[15] observed subjective and objective improvement after liver therapy in a patient with insufficiency of the liver and edemas due to subacute hepatitis. This observation is very significant as postoperative hepatic hypofunction or insufficiency is not infrequently observed. Kaufman[16] obtained favorable results with liver therapy in tuberculous patients. Salzman[17] showed that liver extract increases the tonus of the heart and blood vessels, accelerates pulse and dilates the coronary vessels of the heart. Too low blood pressure is brought to normal figures; diastole is shortened and systole becomes stronger. Excellent results were obtained in intermittent claudication, cardiac insufficiency, abdominal angina, pylorospasm due to gastric ulcers. Gänsslen[18] reports beneficial results following the use of parenteral administration of liver extract in some anemias other than pernicious anemia. On the other hand Connery and Goldwater[19] treated a miscellaneous group of patients suffering from various forms of secondary anemia; in none of these was a hematological or clinical improvement noted. Liver extract had been used by Vascele and by Faber[20] in the treatment of severe anemia in infants with an excellent gain in red count and hemoglobin. Tuscherer[21] came to similar conclusions. Maurer, Greengard and Kluver[22] saw significant improvements in anemias of early infancy after liver therapy. Reiniger[23] states that according to Edel favorable results can be obtained with liver therapy in hereditary hemorrhagic teleangiectases or so-called Osler's disease; not only the amount of hemoglobin and the number of erythrocytes increase but the frequency and intensity of hemorrhages diminish. Strisower[24] noticed an increased appetite after liver therapy in cases of carcinoma of the stomach. Keefer and Yang[25-26] were able to demonstrate favorable results in secondary anemias associated with infestation, anemias of pregnancy, anemias due to chronic loss of blood caused for instance by chronic dysentery; also in some of the nutritional anemias of childhood.

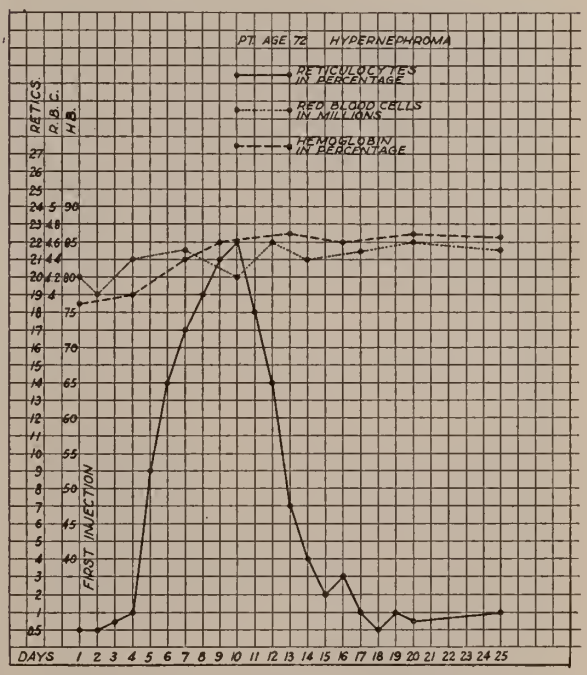
A conclusion may be made from these instances that apparently the liver extract in addition to stimulation of the regeneration of the blood has some other beneficial effect upon the organism under certain circumstances. The

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above mentioned reports lead us to investigate the value of liver extract in postoperative management of patients who were anemic before the operation, sustained considerable losses of blood during the operative procedure or were in need of general stimulation on account of infections or other complications.

Oral administration of liver substance or liver extract during the postoperative period did not seem to be advisable for several reasons. Liver substance can not be offered patients during the first few days after the operation when they must be kept on a liquid diet; furthermore liver extract may cause undesirable vomiting, particularly in patients who are still nauseated after operation or irritable and whimsical and easily develop aversion to the taste of liver. Finally it has been repeatedly observed that during infection and fever the patients cease responding to orally administered liver extract while the action of it is not inhibited to the same degree if given intramuscularly. For these reasons it has been deemed desirable to supply liver extract by means of parenteral injections. The extract used was a commercial preparation of fraction G of Cohn, Minot and their associates.* In view of the fact that such injections cause pain which sometimes lasts for several hours, a special technic has been developed. It is possible for pain to result either from the smearing of the preparation along the needle track as the needle goes in, or from the backflow of the preparation along the needle track after the needle is withdrawn. The pain is apparently due to a great extent to the few drops of liver extract which are deposited in the subcutaneous fat. In order to prevent this pain 1 to 2 cc. of a 1 per cent. solution of procain were injected into the upper lateral quadrant of the gluteal region. The needle was left in situ, the syringe detached and 2 cc. of the liver extract aspirated from the vial by means of another needle. After the injection of liver extract the syringe was detached again, 1 to 2 cc. of procain solution aspirated and injected through the same needle which was left in situ. The anesthetic solution expels from the needle the remaining few drops of liver extract so that they can not come into contact with the subcutaneous fat. In other words the injection of liver extract is interposed between two injections of procain solution. This "sandwich technic" sounds complicated but in reality is very simple and preferable to a procedure consisting of mixing the liver extract with an anesthetic.

The customary postoperative management was employed but any other medication was avoided, except enemas and hypnotics. Only severely or critically ill cases were selected. The treatment began on the first or second postoperative day and 2 cc. of liver extract was injected on five consecutive days on alternate sides. Estimations of hemoglobin, red cell count, reticulocyte count and determinations of blood pressure were made preliminary to the treatment, daily during the administration of liver extract and also five, ten and fifteen days after the last injection.



Seventeen patients were treated in this manner. No untoward effects have been noticed. Parenteral administration of liver extract was well tolerated by all patients. There were no severe constitutional reactions. A slight fall of blood pressure, systolic as well as diastolic, was observed in six patients but six to eight hours after the injection the blood pressure was again normal. In cases with secondary preoperative or postoperative anemia the hemoglobin reached the normal figures somewhat faster than in control cases with approximately the same degree

*Liver extract No. 343 was supplied for experimental purposes by Eli Lilly & Co. The author wishes to acknowledge the courtesy extended to him.

of anemia. The effect upon the number of erythrocytes was much more marked. In other words the liver extract exerted a stronger action upon the red blood corpuscles than upon hemoglobin. The increase of the number of reticulocytes was more or less in proportion to the increase of the number of red blood corpuscles. Fixed smears of capillary blood were stained with brilliant cresyl blue and counterstained with Wright's stain; the reticulocytes were counted approximately thirty to sixty minutes after the staining. Only in one case an enormous and rapid increase of reticulocytes was observed in spite of the fact that anemia was very slight. The patient was a woman 72 years old, referred by Dr. L. Block. The clinical diagnosis was hypernephroma of the left kidney. A nephrectomy was performed. Before the operation the blood picture was as follows: hemoglobin 75%; red blood corpuscles 4,230,000; leukocytes 15,300; neutrophiles 67%; small lymphocytes 21%; large lymphocytes 7%; large mononuclears 3%; eosinophiles 1%; transitional 1%; The change in the blood picture ten days after the last injection is recorded in the accompanying chart. The explanation of such an extraordinary increase of reticulocytes in a case of hypernephroma is subject to considerable speculation.

The diagnoses of all the cases treated are recorded in the following chart:

Case	Age	Sex	Diagnosis	Operation
1	72	F	Hypernephroma	Nephrectomy
2	37	F	Fibromatosis uteri	Panhysterectomy
3	41	F	Toxic goiter	Thyroidectomy
4	31	M	Gc. arthritis of wrist	Aspir. of pus
5	21	F	Gangren. append.	Appendectomy
6	43	F	Mult. fibroma of the uterus	Panhysterectomy
7	39	F	Parametr. Abscess; peritonitis	Lapar.; drainage
8	38	F	Septic abortion, septicemia	Blood transfusion
9	17	M	Carbon monox. poisoning	Blood transfusion
10	21	F	Aneurysm, radialis art.	Aneurysmorrhaphy
11	32	F	Chronic cholecystitis	Cholecystectomy
12	41	F	Fibrosis uteri	Supravag. hysterectomy
13	54	F	Chron. Cholecyst. & append.	Cholecystectomy & appendectomy
14	47	M	Gangren. append.	Appendectomy
15	36	M	Perfor. append.	Appendectomy
16	39	F	Cholelithias.	Cholecystectomy
17	37	M	Duodenal ulcer	Gastroenterostomy

A trivial increase of hemoglobin and blood count was noticed in nearly all cases with a slight or marked anemia. In majority of cases there was a transient increase of the number of leukocytes and blood platelets with a slight shift of leukocytes to the left. On the other hand in cases without anemia no effect upon the blood regeneration could be found. This is in conformity with the observations of other authors that the height to which the percentage of reticulocytes rises is in inverse proportion to the initial level of the red cell count at the time therapy is commenced.

The most remarkable effect of liver extract in practically all cases, disregarding the question whether anemia was present or not, was a rapid gain in strength, increase of appetite and development of sensation of well being. This latter statement was made repeatedly by patients without being questioned. All the cases recovered although the prognosis was doubtful in some and bad in others. The duration of convalescence was shortened as compared with similar cases that did not receive this treatment. Of course the conclusion "post hoc ergo propter hoc" can not be made without further observations. In order to make authoritative generalization on this subject it is imperative to follow a large series of well controlled patients. However a definite impression was gained that the liver extract raises the resistance of the organism. We possess no tangible criteria for evaluation of this effect of the liver extract as no reliable biological tests have been discovered for any action of the liver extract except effect upon the regeneration of the blood. Liver function tests are inaccurate and, even if accurate, would probably not be a satisfactory index. Certain theoretical considerations justify the suspicion that a stimulation of the reticulo-endothelial cells of the liver is created by administration of liver extract. Increase of weight was more marked in most instances during the first few weeks after this treatment than in control patients. We do not know of any contraindications for the use of liver extract in postoperative treatment. This extract contains a negligible amount of carbohydrates which should not play any rôle in diabetes. Diminution of blood pressure, even if of transient character, should be welcome in patients with high blood pressure. It is not necessary to emphasize that liver extract can not be considered as a panacea for all kind of complications observed during the postoperative period, but it must be regarded as a valuable adjunct to our armamentarium; it may supplement the routine postoperative therapy in

cases where a secondary anemia or infections lower the resistance of the patient. It must be stressed that the purpose of this parenteral administration of liver extract is not a regeneration of the blood which can be accomplished better by means of blood transfusions, but a general stimulating effect. Until now the liver extract has been used to balance a deficiency but apparently it may also act as a stimulant. The exact knowledge of the underlying reaction and mechanism remains obscure; as in many other instances, empirical success precedes exact knowledge of the action of the substance. The impression was gained from a limited study that the stimulating effect of liver extract occurs with such a striking uniformity that the clinical use of it in postoperative managements is warranted.

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DISCUSSION

Dr. E. B. Montgomery, Quincy: My only regret in leading this discussion is that I have had no actual experience in the parenteral use of liver extract. However, comparatively few of us have, so that this disqualification may be overlooked by you.

One of the most brilliant chapters in the history of therapeutic progress has been furnished by the demonstration of brilliant results achieved by liver therapy in the treatment of a disease whose very name carried hopelessness i. e. "progressive pernicious anemia."

Despite the wonderful results achieved by this treatment, now confirmed by the profession at large, there has always been "a fly in the ointment." The expense of liver diet, difficulty often in procuring it and worst of all the disgust that many patients have for it in quantities required, have led to the attempt to isolate the active therapeutic agent in the liver and administer in the most effective way. One of the first men to do this was Professor Gaenslen of Tübingen, Germany, who with the aid of the Laboratory of Physiology of a German dye factory, prepared an extract from the liver which he called Campalon. Unfortunately its method of preparation has not yet been published. But Prof. Gaenslen has published his results of its extensive use and has given them to various scientific bodies, the first paper having been published early in 1929 and the last in November, 1931. They have covered in detail a large series of cases both from his own experience and that of others, mostly in Germany, and have shown uniformly superior results over other methods of treatment of pernicious anemia. He has also tried it out largely in secondary anemias but has found that the only secondary anemias in which it has been of use have been those following acute hemorrhages. Here there has been a rapid increase in hemoglobin, reticulocytes and erythrocytes and the results have been excellent, but in the anemias resulting from slow, long-continued hemorrhages, hemolytic jaundice, carcinoma, etc., while there has been a considerable increase in reticulocytes, there has been no improvement either in the patient or general blood condition. These results have been confirmed in America by Murphy and Jones working in Peter Bent Brigham Hospital in Boston under the Proctor Research Fund, who reported at the 1929 meeting of the American College of Surgeons a large series of cases and have made later reports in 1931. Their work has been done with a liver extract made under their direction by Lederle.

Minot and Castle have had similar results, published in the Annals of Internal Medicine, working with an extract prepared by Lilly and Company.

While Dr. Narat's experiences as related in his excellent paper are confirmatory of the experiences of these other gentlemen as to the excellent results obtainable with this extract in a certain group of secondary anemias, it scarcely justifies the conclusion that this remedy should be used as a routine measure in postoperative cases when in most instances simpler therapy as iron and diet would amply suffice.

Dr. George deTarnowsky, Chicago: Whether liver extract will prove of any value in postoperative cases is open to question. Dr. Narat makes no final statements regarding it. From his results and from the picture which he gives us postoperatively, I am very much inclined to think that all he gets with the liver

extract is simply a protein reaction. I do not believe he gets any definite results from the liver extract itself. He does get the reaction or the "kick" which the patient receives from any protein pre-operatively or postoperatively. You must remember that the treatment which he outlines disturbs the patient at least once a day for a number of days. Whether that is wise or not is open to discussion. I believe after all a safe and rapid surgical technic with minimum amount of traumatization of the tissues, particularly of the peritoneum decreases postoperative shock and pain. You will have a rapid convalescence, so that the use of preparations like liver extract will prove unnecessary It is a very interesting subject but I do not believe it is going to stand.

Dr. George B. Lake, North Chicago: I am not going to talk directly to this subject but along a sideline which is to me more important. This particular generation of physicians have made a god of the laboratory. We seem to have the impression that unless we can see something in figures, tabulated on a chart or weighed on scales or demonstrated in a testtube, that it is not doing anything. Gentlemen as physicians there is one thing we can do that other people cannot and that is to get sick people well. I want to make a plea for the reality of clinical research, the importance of estimating the subjective symptoms. If what you do for a patient makes him feel better in a less number of days, I think that is scientific analysis.

Dr. Thomas J. Merar, Quincy: I would like to ask Dr. Narat if he has had any experience with the new liver extract made in Rockford. It is made of horse liver.

Dr. J. K. Narat, Chicago (closing the discussion): Regarding the technic, liver extract is put on the market for the purpose of intramuscular and intravenous injections. I am opposed to liver extract by intravenous injection. I do not believe a combination of liver extract and procain would serve the purpose. Procain does not have any immediate effect. Liver extract does.

As far as the postoperative treatment of anemias is concerned, I wish to state once more that I would not recommend injections of liver extract for the treatment of postoperative anemias because blood transfusions and injections of iron and arsenic are much better. Liver extract is recommended as a general stimulant where the patient is in great danger due to any kind of infection. I believe we are justified to supplement our general treatment with liver extract.

As far as Dr. deTarnowsky's statement regarding foreign protein is concerned, we also thought that the effect of liver extract may be due to foreign protein. The leukocytosis after foreign protein injections is much higher than after the use of liver extract. Chills and fever follow injections of foreign protein but never those of liver extract. I do not want to be misunderstood that we recommend liver extract in every case. When the patient is very weak or is brought to the operating room in bad shape, I believe in addition to blood transfusion and hypodermoclysis, liver extract is justified. It does not do any harm or cause any pain.

The technic is not complicated, and we never see any complications.

As far as the extract from horse liver is concerned, all I can say is that the extract looks nicer. I do not know whether it is as efficient. It is said to be more efficient than liver extract from cattle and that the number of erythrocytes increases more rapidly.

THE STATE OF ILLINOIS AND ITS PROBLEM OF MENTAL DISEASE AND DEFECTIVENESS*

CHARLES F. READ, B. S., M. D.,
ELGIN, ILL.

The Feebleminded. There are at present about 5,000 "children" in the schools for the feebleminded at Dixon and at Lincoln. Those under care in state hospitals and in the correctional schools will probably bring the total up to 6,000 —a small proportion of those in the population at large.

During the last two years 1,000 beds have been added to the Lincoln state school and colony to relieve crowding there and to provide better classification of adult male inmates. The Dixon state hospital is still crowded and additional buildings must be provided as soon as the state's finances will permit. It can be truthfully said that intra-mural work with the feebleminded is now being carried on upon a higher plane than ever before, with school work, industrial training and extensive programs of recreational and diversional activities.

We look with favor upon the New York plan of "daughter-colonies" as a step between the institution and the return of well-behaved, industrially trained inmates to society; however, no definite plans have been made as yet for this work.

The state of Illinois will probably continue to look askance at sterilization as a solution of the problem of feeblemindedness. At the present time scientific data as to how feeblemindedness may be transmitted, are not at all adequate enough to permit of such a radical conclusion.

To the writer, along with many others, it seems desirable that before long an institution for male feebleminded delinquents be established somewhere in the vicinity of Chicago, with a capacity

*Read before the Chicago Medical Society February 15, 1932.

of at least 500 beds. These wards of the state give rise to grave problems in all institutions where they must be brought into daily contact with non-delinquent feebleminded inmates, or normal minded delinquents.

Research into Feeblemindedness. The work of the department of the criminologist is clarifying the problem of penal and correctional care with reference to the feebleminded. Attention is called to his most interesting report of 1929-1930. During this period, in addition to a multitude of physical and psychiatric examinations and special investigations, 5,400 mental tests were given to inmates of the penal and correctional group, which goes to show that we are assembling a vast amount of information concerning the relationship of mentality to antisocial behavior. Aside from the many individual problems thus illuminated, there is sure to emerge from this mass of data a much clearer conception upon the part of those engaged in the work, and of the judges, welfare organizations, parole boards, etc., concerned.

Research into problems of juvenile behavior, will doubtless remain centralized in the Institute for Juvenile Research in Chicago, but it would seem that special field problems might very well be assigned to the staffs of the state schools and colonies; in fact, a closer working rapport between these staffs and the Institute would seem most desirable. *In this branch of state service, as well as in the insane group, the joint endeavor of the state Superintendent of Charities and the state Alienist has resulted in a vast improvement and expansion of trained personnel of all kinds*—and, when all is said and done, it is personnel rather than fine buildings and expensive equipment that accomplishes results in professional work.

Trained and experienced medical officers should be continued in office as long as their services are meritorious. Much ground can be lost, and has been lost in Illinois from time to time, by a disorganization of the medical and nursing services consequent upon political changes and by failure to promote ambitious and capable men and women from the ranks.

The Problem of Mental Disease. There are at present about 23,000 patients in our nine mental hospitals and in all probability there are as many more well-developed cases in sanitariums and in the community at large. *Commitment of mental cases to state care is upon the increase.* During the past three years about 3,000 beds have been added in the insane group—1,000 at the Elgin State Hospital alone. A new hospital, ultimately designed for a population of 5,000 to 7,000, has been started at Manteno and already cares for 850 patients. The budget of the Welfare Department for the years 1931-33, provides for many additional structures to furnish better care and treatment, but this program must be postponed indefinitely on account of the present tax situation.

Medical and nursing staffs may now be considered to be quite adequate to all reasonable demands. Well-conducted training schools for nurses are carried on in all but two state hospitals, the pupils affiliating with schools in general hospitals for special work and being eligible for registration upon graduation. Registered nurses have been added to the nursing staffs in considerable numbers, whereas in the past the chief nurse has been practically the only registered nurse in each hospital. The selection and training of attendants as carried on at present is not satisfactory and greater stress should be placed upon this in the future.

The school for affiliate psychiatric training at the Chicago state hospital has continued as in the past, with groups of pupil and graduate nurses from general hospitals, who come in for a period of from three to four months. During the past year another school for this special training has been instituted at the Kankakee State Hospital. *The time is not very far away when all nursing schools will require training in the nursing of mental cases as a part of the regular course and much of this work will be done in state hospitals.*

To illustrate what may be done in a professional way in a state hospital, the writer at this point may be pardoned for speaking in some detail of Elgin, with which he is at present particularly familiar, although it is but one of nine similar institutions in the state.

PROFESSIONAL WORK IN A STATE HOSPITAL

Of the 7,300 patients received in the year 1930-31 in all our state hospitals—an increase of 730—Elgin admitted over 1,700 last year. Each patient is given a careful workup, physically and mentally, after which the case is gone over in staff conference with a view

not only to diagnosis—which is, perhaps, a small part of the work—but to prognosis, treatment and the possibility of a future return to society. Laboratory methods are freely used, together with the x-ray, basal-metabolism and electro-cardiograph apparatus. During the past year a resident psychologist has assisted materially to clarify staff judgment in many cases.

Following admission, clinical notes are made at frequent intervals, and a routine physical and mental checkup is made every six months with a view to bringing out possibilities of such improvement as may permit a return of the patient to society, not forgetting that he or she may meanwhile develop physical disorders which require medical or surgical treatment.

In all cases not markedly organic in character, the patients are again brought before staff conference within three to six months for further decisions as to diagnosis, treatment and parole.

But the routine professional work of a state hospital conveys only a partial picture of all the activities involved—which at Elgin as an example—may be briefly stated as follows:

During the past year an intensive search for cases of pulmonary tuberculosis has been carried on—as a part of a state wide campaign, instigated by the State Alienist—with the result that one hundred cases have been discovered and a new tuberculosis ward set up. The diagnosis of this disease in the insane is often far more difficult than in normal patients because of lack of cooperation; the x-ray has been extensively used and chest pictures made in the majority of cases. The next step in this campaign should be the establishment of consultation contact with outside experts and the use of modern surgical measures for the arrest of the process in selected cases.

Encephalography has been standardized for our especial requirements and will become a routine measure in dealing with epilepsy and many organic cases. We feel that it is a safe and worthwhile hospital procedure.

The hospital service is exceedingly active. Standard records are kept and surgery is done whenever indicated. We have been especially interested in the use of *avertin* as an anesthetic; patients operated upon can scarcely be persuaded when they wake up that an operation has really been done.

Sodium amytal has been thoroughly tried out both for sedative purposes and in order to produce somewhat lucid intervals in stuporous patients who otherwise would not talk and has been found to be of great assistance.

Atropine treatment for chronic encephalitic Parkinson syndromes has been carried on during the past six months. There is no doubt but what it is of decided benefit in certain cases, as recently reported by Dr. Felix M. Adams, of Oklahoma.

Radium chloride treatment of dementia praecox and the depressions of later life, at the suggestion of a Chicago physician, has been an interesting therapeutic effort, though at present we are not prepared to make any statements as to results.

Malarial and heat blanket treatment of catatonics, is another interesting therapeutic enterprise, which we expect soon to hook up with the subsequent use of carbon dioxide and oxygen inhalations, according to the practise of Langestrasse.

For nearly a year an endocrine survey has been carried out under the guidance of an endocrinologist of Chicago. Although the results have been meager, the undertaking is worth while.

The treatment of paresis is carried on intensively, with the use of malaria and sulphur in oil, the writer being peculiarly interested in the latter therapy, since he was the first to use it in this country. Treatment by diathermy and the heat blanket, has been carried on at Elgin directly under the auspices of the state Psychopathic Institute for two years now, with excellent results, as reported by the state alienist, in a recent communication.

Autopsies run from twenty-five to thirty per cent. of all deaths. Pathology conferences are held every two or three weeks by the pathologist of the state Psychopathic Institute, to which physicians of the vicinity are invited. Medical meetings of the hospital staff are held semi-monthly, no attempt being made to confine the topics discussed to the field of neuropsychiatry.

During the past year some interesting work has been done in the study of the colloid chemistry of the blood in catatonics under the direction of an Elgin physician. These studies are in line with the present trend toward placing a greater emphasis upon blood colloid states in mental disease.

Four social workers are active in obtaining the patients' histories and in following cases after their return to the community. At present this department is working upon a survey of dementia praecox patients who have been out of the hospital for over a year.

In April a research fellow in the relationship of spiritual conflict to mental disturbance will continue with us the work he has been doing at Worcester for a number of years. A post-graduate student of sociology is at work upon the problem of zonal distribution of patients admitted from urban districts. Many groups of non-medical students, nurses, etc., visit us annually for ward walks and clinics.

Once a month all physicians submit a list of patients who have improved so greatly as to merit consideration of release. Following this a psychiatric survey is made and an attempt made to place them with relatives or friends if their condition seems to warrant this. In this manner the out-patients have been considerably increased in number during the past few months, thus relieving the state of the burden of their support and providing more room for those who remain in the hospital.

Several months ago a list of talks which the physicians of the staff of the hospital were prepared to give before various lay organizations, was sent out to these organizations in the hospital district. As a result, during the past fall and winter some thirty of these mental hygiene addresses have been given in one place and

another, thus contributing somewhat to the enlightenment of the public upon problems of human behavior.

The psychologist, aside from routine work, has accumulated interesting data concerning a new test devised by Babcock, which we are finding of practical value in checking up the amount of deterioration in paresis, chronic alcoholism, morphinism, etc.

Out Patient Clinics. In Chicago and in various communities downstate, out-patient clinics are regularly conducted for the supervision of patients during their period of probation. In addition to this work, it would seem proper that the resources in our state hospitals should be directed toward the relief of community conditions dependent upon mental disease and defectiveness, which would not be called to the attention of a general practitioner. *It is our belief that the medical men of every community would profit financially in the end by the presence of a properly operated mental health clinic, inasmuch as treatment would not be undertaken and the aim would be in every case to adjust the patient in the community with the assistance of the family physician, provided he is interested in cooperating.*

Each state hospital might thus very well serve as a helpful center for its community in matters of mental hygiene, the early recognition of mental disturbance and the adjustment of mental patients in society, as long as this is possible without danger to themselves or those about them. The writer does not believe in state medicine as ordinarily interpreted by the medical profession, but in matters that have to do with the insane, the feebleminded and criminals, the state has already been compelled to take a hand; hence the evolution of this tremendous machine termed the "Department of Public Welfare." The time is evidently past when this branch of the state government can remain within the boundaries of institutional walls if it is to have a complete and public spirited program for the reduction of the ever increasing numbers of those committed to institutional care.

The work of the Institute for Juvenile Research, already referred to, illustrates this idea very well. Illinois may well take to itself much credit for the part it has played in developing what was originally a small scale experiment, subsidized by individual gifts, into what is now one of the most worth while undertakings of any state in the field of mental hygiene.

Prevention of Mental Disease. When we have learned how to prevent arteriosclerosis and when syphilitic infection and chronic alcoholism have been reduced to the vanishing point, we shall have done away with nearly half of our mental diseases. These are problems of medical research and community hygiene.

The remaining fifty or sixty per cent. will give us much trouble for a long time, since the causation is so manifold and obscure as to make specific treatment impossible—with our present day knowledge. For example, twenty-five per cent. of all first admissions to state hospitals are cases of dementia praecox—and dementia praecox remains a riddle which challenges attack from every conceivable angle. The Worcester state hospital in Massachusetts is at present carrying out an investigation of the causation of dementia praecox from every conceivable approach, with a special grant from the legislature for the employment of a large corps of scientific workers. In a few years we hope they may tell us something more about dementia praecox.

Meanwhile, however, Illinois need not mark time. The division of the state alienist possesses at Elgin a good get-up for research work, not nearly so elaborate, to be sure, as that at Worcester, but sufficient to do much worthwhile work by itself, and in conjunction with the Elgin staff and the faculties of the various universities.

At the Illinois Research and Education hospitals a psychiatric institute has recently been established, which will doubtless become an outstanding teaching and research center with the resources of a great scientific institution as well as of the state hospitals and colonies for nervous and mental diseases at its command. As our medical students become increasingly better trained along psychiatric lines, they will carry increased enlightenment in mental hygiene to the communities in which they practice. *All state hospitals and colonies are open for student training either by way of visiting groups, student clerkships or internships, and for properly supervised research work under the direction of the faculties of our several universities.*

A closer rapport of the state university and the Research hospitals with the work of our state hospitals is most desirable. An effective liaison between state scientific research and a field so fertile as the state hospitals, can and should be effected in many ways to the profit not only of

those who have broken down mentally, but to that of many thousands who will become afflicted within the next few years.

Reference has already been made to the professional activity of the state hospital with which the writer is especially familiar. In the course of such a program it is evident that a considerable number of doctors, nurses, social workers and attendants of the more intelligent type, are constantly being trained to deal with mental problems, not only within institutional boundaries, but upon the outside as well. Every year a number of these people return to their communities with a knowledge of mental disease which must be a positive asset to them and to their communities throughout their life-time. This phase of our educational work is easily lost sight of, along with the fact that the relatives and even the patients themselves who are returned to their homes recovered or vastly improved, serve also to contact the public at large with one of its most serious problems.

Human misbehavior is by far our most vital interest today. Everyone wants to be well and everyone wants to be happy. Society as a whole shows an increasing tendency to view these matters with intense interest. The present world depression is bringing even the nations to the realization that they cannot separately work out these problems satisfactorily—vide the International Congress of Mental Hygiene held in Washington two years ago. There must be a joint endeavor. The term "multiple approach" is at present a favorite means of expressing the thought that no question of far reaching implications can be answered by attacking it from one direction only. *Thus the mere building of new institutions, hospitals, penitentiaries and reformatories, cannot solve the problem of illfare and welfare in Illinois.*

Within the Department of Public Welfare this principle of multiple approach may be put to good use. We can coordinate our present facilities to better advantage, emphasizing especially our relationship to the state university, as before mentioned, and to the state normal schools, where the principles of mental hygiene should receive especial consideration.

Beyond its boundaries the Welfare Department may well continue to cultivate cordial and sympathetic relationships with public and private organizations. Whatever the state can do in the field of mental hygiene should be generously offered, and accepted without suspicion or jealousy —provided always that the state is minded not to injure the private physician in the work he is professionally prepared to do, nor to pauperize the public.

As in the past few years, the Welfare Department will doubtless continue eagerly to seek advice and suggestions from all quarters as to how its job may be better done. Not every suggestion will be practical, not every one possible to carry out, but the present receptive attitude, if continued, must build up a cordial spirit of cooperation that will eventually take the Department entirely into the field of a strictly humanitarian and professional undertaking.

THE EARLY DIAGNOSIS OF ACUTE INTESTINAL OBSTRUCTION

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Early and accurate diagnosis is the ambition of every medical man. In few conditions, however, is there such urgent need for an immediate diagnosis and prompt adequate treatment as in an acute intestinal obstruction. Our mortality in this condition has remained practically stationary for many years, and is unquestionably due to the fact that we have not kept uppermost in our minds the possibility of an obstructive lesion of the intestine whenever a patient complains of acute abdominal pain. Not many years have passed since surgical procedures on the thyroid gland were prohibitive because of the tremendous mortality associated with such procedures. Now in our better clinics the mortality has dropped to as low as .0025%.[1] Not many years ago, surgery of the large bowel carried a mortality of from 40 to 70%. Within the last few years, by adequately preparing the patient and by having the surgeon properly trained for such operative procedures, the mortality has dropped to where it is now, below 10%. Unfortunately, however, our progress has not kept stride with our acutely obstructed cases as it

has with many of our other formidable surgical conditions.

Our medical students are still being taught that the symptoms of intestinal obstruction are pain, fecal vomiting, complete closure of the bowels, and tympanites. This is all very true, but if we are to wait until obstipation becomes a prominent factor, if we are willing to wait until the abdomen becomes distended, if we are content to procrastinate until no gas or fecal material can pass per rectum, then we are often too late to accomplish much and our mortality will continue to remain abnormally high. Our only hope in cutting down this tremendous and often unwarranted loss of life is to establish the diagnosis before such profound symptoms make themselves manifest, and before irremedial damage to the bowel has resulted.

There is no question that the most frequent cause of acute intestinal obstruction is in herniae, where a loop of bowel gaining entrance into the hernial sac becomes obstructed and later strangulated. After discovering a palpable tumor mass located in one of the hernial positions, sufficient evidence is present to enable us to arrive at a diagnosis. There should be no hesitation on the part of the medical man seeing such a case to recommend immediate intervention, for to wait is often equivalent to a death sentence. It is in the obstructed cases occurring within the abdominal cavity, whether it be due to an internal hernia, volvulus, intussusception, bands, or the adhesive type, that the early diagnosis is of particular importance, for here we have no telltale tumor presenting itself to aid us in establishing a diagnosis. Every time we open an abdomen we are subjecting such a patient to a possible intestinal obstruction which may appear while the patient is still in the hospital or months or years later.

There are a number of criteria which if recognized early, and interpreted correctly, should in the majority of cases aid us in arriving at an early diagnosis.

Pain is the outstanding early symptom. The pain is severe, colicky in character, intermittent, and may be localized anywhere in the abdomen depending upon the location of the obstruction. Between such paroxysms the patient remains comfortable, only to have a recurrence after a few minutes.

Nausea and vomiting is an invariable symptom, usually coming on early. At the onset it is reflex in character and not due to the backing up of intestinal material, which inevitably must follow if the obstruction is not relieved.

Too long have we been taught, and too indelibly is it inscribed in the minds of the medical profession, that intestinal obstruction is characterized by obstipation. This must and will occur if the case is permitted to go too long. The passing of gas or even fecal material should not in the least sway us from the diagnosis of intestinal obstruction, for as long as there is gas or fecal material within the bowel distal to the point of obstruction so long will this material pass. Too often has a patient been permitted to go on to strangulation because of passing a little gas, or evacuating a little fecal material following an enema. Too much false assurance has been placed on the fact that following an enema the patient has successfully passed gas or fecal material, and only too often has this false security been the occasion to postpone proper surgical therapy only to find that after a number of hours the distention, the tympanites, the vomiting, and the pain becomes increasingly alarming. With each hour of procrastination the patient's chance for recovery rapidly diminishes. Again, may we be permitted to stress the fact that given a patient with recurrent paroxysms of colicky abdominal pain, with nausea and vomiting, the diagnosis of acute intestinal obstruction must still be entertained notwithstanding the fact that he has successfully passed gas or fecal material spontaneously or after an enema.

Another outstanding early characteristic of this condition is the too frequent absence of local signs suggesting intra-abdominal pathology. With the rupture of a peptic ulcer we have the board like rigidity with its accompanying collapse. With an acute appendicitis we find tenderness and rigidity in the right lower quadrant. Unfortunately, however, we most frequently find no such tell-tale aids in cases of obstruction. Occasionally there may be some tenderness over the site of lesion, but in the early cases this finding is not sufficiently characteristic to be dependable. Later, after strangulation has occurred, tenderness and pain may become outstanding findings. At the onset of this condition such patients are not acutely ill, the temperature remains normal, the pulse may be only slightly elevated, the leucocyte count has

not increased unless vomiting has been considerable, and unless the obstruction is high there is no change in the blood chlorides, urea, or carbon dioxide combining power of the blood.

Of equal importance to the occurrence of intermittent paroxysms of colicky pain is the examination of the abdomen with the stethoscope. The finding of increased loud peristaltic movements, often explosive in character especially at the point of obstruction and reaching its intensity at the height of the pain, is a most valuable finding and can be considered one of the pathognomonic signs of intestinal obstruction, especially when associated with the findings previously described.

As yet not sufficient credence has been given to the x-ray findings in this condition although adequately brought to the attention of the profession by Case in 1915.[2] More frequent use and correct interpretation of a flat plate of the abdomen in every suspected case will be a great boon to the early diagnosis of this most terrible intra-abdominal catastrophe. Within 4 or 5 hours after the onset of an obstruction, and especially if the small bowel is involved, there is sufficient evidence present on such an x-ray plate to warrant an accurate diagnosis. The presence of gas in the small intestine on the x-ray film is an abnormal finding and indicates an interference to the flow of material in the small bowel. This has been described as step ladder like in pattern, and in later cases fluid levels with gas above may be visualized.

In resumé, even at the expense of repeating what we have previously stated, given a patient, especially one who has previously been subjected to an intra-abdominal operation; who does not look sick; whose temperature is normal; who complains of recurrent paroxysms of colicky abdominal pain; who has or has not passed gas or fecal material either spontaneously or following an enema; who on examination presents little or no local findings of intra-abdominal pathology; who shows increased peristaltic movements reaching their maximum at the height of the pain, and with the finding of gas and frequently fluid levels in the small bowel on an x-ray plate, the diagnosis of intestinal obstruction is established. With these findings ever present in our minds, hours will be saved, strangulation of the bowel will be minimized, operative procedures will be greatly simplified, and mortality will rapidly fall.

REPORT OF CASES

Case 1. L. P. Male. Aged 28 years. Previous history essentially negative except for an appendectomy done several years previously for a ruptured appendix. About six hours previous to our seeing him he suddenly experienced a sharp pain in the region of the umbilicus followed by repeated paroxysms coming on at intervals of 2-5 minutes. Nausea and vomiting then followed. Several enemas were given which at first were followed by the escape of gas and some fecal material. Later, little or no gas or fecal material followed the introduction of fluid into the colon.

On examination the patient did not look sick except for the discomfort resulting from the nausea and vomiting. The pulse was 85 per minute. There was only slight tenderness on deep pressure over the apendix scar and umbilical region. There was only a suggestion of distention present below the navel. On examining the abdomen with the stethoscope loud peristaltic movements could be heard and at the height of the pain were explosive in character. The white blood count was 8500. The x-ray showed the colon outlined by gas with gas present in the small bowel. A diagnosis of intestinal obstruction was made and an immediate exploration was advised.

At operation, through a right rectus incision, dilated small bowel was immediately encountered when the abdomen was opened. Putting the exploring hand into the abdominal cavity a mass of bowel was brought to view and an adhesive band extending from the appendix scar and reaching to the ileum about 8 inches proximal to the ileo-cecal valve was found. This band was severed and at once was followed by the emptying of the distended small bowel. An uneventful recovery followed.

Case 2. Miss C. C. Aged 19 years. This patient gave a history of repeated attacks of pain in the right lower quadrant with nausea, vomiting and fever. When she first presented herself for examination she was recovering from such an attack. A diagnosis of recurrent attacks of appendicitis was made, but as she was recovering from her latest attack she was advised to postpone operation until she was entirely free from pain. Several weeks later she entered the hospital for operation. Through a muscle splitting incision an appendix bound down and showing definite evidence of previous pathology was removed. Convalescence was without incident, the patient being dismissed on the sixth postoperative day.

Twelve days later she was awakened suddenly at 3 A. M. with severe abdominal pain in the region of the umbilicus. The paroxysms were repeated every 3-4 minutes lasting 1-3 minutes, causing her to double up and cry out in pain. She was nauseated and vomited several times. The stethoscope revealed marked increase in the peristaltic movements especially at the height of the paroxysm. She was advised to enter the hospital as a diagnosis of intestinal obstruction was entertained. At the hospital the temperature was nor-

mal, the white count 11,000. A flat plate of the abdomen showed the colon outlined clearly, but in the mid portion of the abdomen gas could be seen in the small bowel in stepladder arrangement.

At operation there was found an acute kinking of the ileum just proximal to the ileo-cecal valve. This was freed and an uneventful recovery followed.

SUMMARY AND CONCLUSIONS

1. Our mortality in intestinal obstruction has remained practically stationary, whereas, in most of the other formidable surgical conditions there has been a distinct fall.

2. Every abdominal operation makes for a potential intestinal obstruction.

3. Recurrent attacks of colicky pain, with nausea and vomiting, little or no local findings, and the presence of increased peristaltic movements speak for intestinal obstruction.

4. The passing of gas or fecal material spontaneously or following the giving of an enema does not rule out an intestinal obstruction.

5. The finding of gas and fluid in the small bowel on the x-ray plate of the abdomen spells obstruction to the intestinal contents.

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STERILITY IN THE MALE*

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In examining the husband of a sterile couple, the first procedure to carry out is to obtain a history and determine if there has been anything in the history that could cause a closure of the tubes leading from the testicle into the urethra, or if there has been some pathology that could have destroyed the sperm-producing structures of the testicle.

If there is nothing of this sort in the history, the clinical examination will show either a normal testicle, normal epididymis and normal vas, or it may show an absence of the vas or absence of the epididymis. It also may show a rare condition, a congenital absence of sperm formation. This condition is manifested clinically by the testicles being a little smaller than normal, slightly more globular and considerably harder than a normal sperm-producing testicle.

If we do not find this type of testicle and we do not find any nodules or infiltrations in the vas or epididymis, the next step in our clinical diagnosis is the examination of a specimen of semen.

To obtain a specimen of semen, actual sexual intercourse must be indulged in. Semen obtained in any other way is not reliable. Semen obtained by rectal manipulation rarely contains spermatozoa; only one specimen in four or five will contain spermatozoa. So, examination of the rectal specimen is valuable only from a positive sense and has no value in the negative sense.

When we obtain a specimen of semen, we determine the presence or absence of spermatozoa and this fact divides all semen specimens into two major groups; namely, 1, those with spermatozoa in any number present and, 2, those with absolutely no spermatozoa.

In the group that contains spermatozoa, the next step is to determine the number. The normal ejaculation is from 3 to 8 c.c. in volume and should contain around five hundred million spermatozoa. Any diminution in this number lessens the mechanical chance of a spermatozoa meeting the ovum and hence is conducive to sterility.

The next point to observe is the development of the sperm. Are the tails long and straight, their axis in line with the axis of the head, or are they short and perhaps at right angles to the axis of the head, and is the head the normal ellipse or is it larger than normal and globular or even angular? The neck piece is often thickened and considerably enlarged.

The motility of the spermatozoa should next be determined by following the spermatozoa across the high power field. A really extraordinary specimen will have a progressive, vibratile normal motion and go across the field in from 3 to 5 seconds. The speeds vary to as high as 30, 40, or 50 seconds and then absolute immotility or rather motility in situ. Just the exact amount of motility that is necessary for the sperm to impregnate has not as yet been determined. I have seen pregnancy take place in sperm that was very slow.

The methods of treatment for these conditions of deformed sperm are purely endocrine, vitamin and dietetic. The motility of the sperm varies

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with the constitutional vigor and the state of bodily health of the individual.

When the individual is suffering from any infectious disease or low grade of sepsis, the motility of his sperm will be markedly impaired. This fact was brought out to me strikingly during the influenza epidemic in 1918; I had several patients at this time whose motility of sperm I had determined, and after they had recovered from their influenza and were convalescent I had the opportunity of examining their sperm again. In every instance the motility was markedly reduced, and as the patients convalesced and regained their strength, the motility came back up to what was normal for the particular individual.

The giving of a high protein diet, a diet rich in vitamin, is essential in the treatment of this class of patient. Position of the testicle in the scrotum has a profound influence on the activity of the sperm. In any group of sterile couples, one will find a larger number of unilateral undescended testicle among the husbands than will be found in the general population.

While these individuals have one testicle in the scrotum free and clear, still the general anomaly or lack of development has extended to it and it does not produce a high quality of sperm.

This bears out the known fact that the human testicle must be in the scrotum to produce sperm at all and will absolutely cease producing spermatozoa if it is replaced in the abdomen.

In the group whose semen shows no spermatozoa, we have two subdivisions: 1, Those with obstructions which prevent the spermatozoa from leaving the testicle, and, 2, those with no production of spermatozoa.

In the first group we have the obstructed types. These individuals practically always give a history of mumps, gonorrhea or trauma to the testicle. Clinically examination will show an infiltrate in the epididymis or in the vas. The semen examination shows no spermatozoa in the semen.

The relief of this type of patient is purely surgical and the percentage of cures depends entirely upon the location in the sexual tract of the obstruction. The commonest point of obstruction is in the lower portion (tail) of the epididymis. Here we relieve the condition by joining the vas to the epididymis above the point of obstruction. This is best done by direct vaso-epididymostomy, an operation devised by the writer which joins the vas to one particular epididymis tubule loop. Results here depend upon the surgeon and not upon chance as in the carlier methods of vaso-epididymostomy. Our results in this operation are 60 to 70 per cent. successful.

The next most common site of obstruction is in the vas and here we simply cut out the obstruction and do an end-to-end anastomosis of the vas. Results here are almost always obtained.

Obstructions in the vas, deep down in the pelvis, are surgically inaccessible and therefore unrelievable directly.

In this type of obstruction we have devised the sac operation, which converts the tunica vaginalis into a spermatocele. When we wish to obtain sperm, we tap this spermatocele and inject the sperm into the wife's uterus.

Obstructions in the head of the epididymis and in the mediastinum of the testicle are relievable by proper anastomosis of the mediastinum testis and the vas, or one of the tubules of the epididymis and the vas, but results here are relatively few.

Azoöspermia cases are due to no production of spermatozoa and are of two types.

First are those due to an absence of spermatogenic tissue of congenital origin with normal development of the sexual side of the testicle.

These individuals have a normally developed testicle, as regards the sex side, but no development of the spermatogenic side. Sexually, these individuals are normal, or stronger than normal, as regards their sexual libido. There is no treatment that will remedy this condition. It is due to a congenital absence of spermatogenic tissue which classifies with the deformities.

The second group of non-production cases is much larger. There the deformity not only involves the spermatogenic side of the testicle, but also involves the sexual or internal secretion side. These individuals, from a sterility standpoint, rate a very poor prognosis; they are called eunuchoid individuals.

The examination of the male is so easy and simple that I feel it is not justifiable at present to do any sterility operation on a woman until it has been determined that the husband has normal spermatozoa in his semen.

Secretions effect on spermatozoa. The effect of pathological changes in the prostatic fluid and

in the seminal vesicle fluid on the sperm are important and should be carefully determined. Pus in the prostatic or vesicular fluids in some instances is stimulating or irritating to the sperm.

Oftentimes one sees in a fresh specimen of semen which contains pus that the sperm are very active, more so than normal. They have a nervous movement. The usual effect of pus in these secretions, however, is detrimental to the sperm and the sperm is usually dead or very feebly motile when pus is present.

In a few instances, I have been able to see this demonstrated in a striking clinical way. Semen obtained a few minutes after ejaculation showed sperm of relatively normal motility. But in fifteen minutes to half an hour the sperm had all ceased to move, due to the toxic effect of the purulent secretions of the prostate.

Inflammatory diseases in the seminal vesicle can cause sterility in another way, as well as by the toxic effect of the pus upon the spermatozoa.

As urologists, we are all familiar with the sausage casing shreds that can be expressed from chronically inflamed seminal vesicles. These shreds, as you know, are a mixture of pus, seminal vesicle secretions and desquamated vesicular epithelium and they are of considerable consistency and size.

In fact, it is surprising the size of some of these shreds that can be expressed through the ejaculatory duct. One step further and these shreds become so thick and so hard that under ordinary conditions they plug the ejaculatory ducts. So, from the clinical standpoint, where there is history of gonorrhea and where one suspects, or knows, that there is present an infection in the seminal vesicle, that patient should not be operated upon until the physician has conscientiously tried to express this plug in the ejaculatory duct by vesicular pressure and expression.

And if one is enough of a urologist to be able to catheterize the ejaculatory duct, he may be able to relieve this obstruction by that manipulation. In any given sterility patient, one cannot determine the exact site of the obstruction until he is actually in the scrotum and has the structures involved in his hands.

Naturally, we wish to relieve the patient in the simplest and surest manner possible. Occasionally the obstructions are so located that the mechanics work out in such a way that we can do a vaso-vasotomy joining the right vas to the left vas, where the results are much better than in a vaso-epididymostomy. As an example, this operation would be indicated where the right vas is closed in the pelvis and the left tail of the epididymis is closed. Therefore, by joining the two vasi together, the sperm from the right testicle would go through the right epididymis, a portion of the right vas, through the anastomotic opening into the left vas, on into the abdomen, and down into the urethra. Another type of case suitable for a so-called cross operation is the following: The right testicle is atrophied and obviously is not producing spermatozoa. The epididymis and vas of the right side are perfectly normal. The left vas is closed in the pelvis and the left epididymis is closed in its tail. To relieve a situation of this sort, it is necessary to join the right vas to the left epididymis and then the sperm from the left testicle will enter the urethra through the right ejaculatory duct.

In closing, I simply wish to stress the fact that at least half of the cases of sterility in any given couple are due to conditions present in the husband. Examination of the husband is much simpler and much more certain than the examination of the wife and should always be carried out before any operative procedure that carries any appreciable risk is performed on the wife.

TREATMENT OF INTESTINAL OBSTRUCTION*

BASED ON THE NEWER CONCEPTION OF THE ROLE THAT CHEMICAL DISTURBANCES, SHOCK-SYNDROME AND TRANSPERITONEAL ABSORPTION OF TOXINS PLAY IN THE PRODUCTION OF SYMPTOMS

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Intestinal obstruction is divided clinically into simple mechanical obstruction, adynamic (paralytic) ileus and strangulation. Although these represent three sharply defined groups, the disturbances in physiology and chemistry that result vary considerably, depending upon the underlying causes and pathology. For example,

*Address before the staff of Norwegian-American Hospital, Chicago, and the staffs of the Veterans' Administration Hospital & City Emergency Hospital of Milwaukee.

in a simple obstruction of the upper two-thirds of the small intestine, the early and preponderating symptoms are due to the loss of H_2O, electrolytes and fixed bases contained in the digestive juices, whereas in strangulation the earliest symptoms are due either to toxemia or shock depending upon whether a small or larger loop becomes suddenly strangulated. In the so-called paralytic ileus the distention that results from excessive splanchnic inhibition is the preponderating symptom, to be followed by the deleterious effects of the increased intra-intestinal pressure, with its resultant circulatory damage to the gut.

Hence in trying to interpret the symptoms that are being produced by an obstruction one must always consider the three great factors that enter in varying degrees into the production of these symptoms, namely:

1. Disturbances in chemical equilibrium due to loss of water and electrolytes from vomiting and failure of re-absorption of digestive juices below the obstruction.

2. So-called shock-syndrome from dehydration, splanchnic engorgement and escape of whole blood or plasma into the lumen and wall of the intestine and into the peritoneal cavity. That a nervous factor is also concerned in the production of some of these symptoms, is suggested by the experiments of Meek. He showed that if a loop of intestine is denervated and then distended, life continued as long as sufficient H_2O and chlorides were given.

3. Absorption of toxins through the bowel wall and thence into the peritoneal lymph spaces, which occurs only after the circulatory damage to the bowel has become serious enough to produce necrotic changes in the mucosa.

Many of the symptoms which were formerly ascribed to toxemia are now being recognized as being due to factors 1 and 2 and it is beginning to dawn upon us that absorption of toxins is a rather late manifestation, excepting in certain cases of strangulation obstruction. The preponderance of one or other of these three factors depends upon:

(a) Stage of obstruction
(b) Nature of obstruction
(c) Height of obstruction
(d) Amount of vomiting
(e) Amount of digestive juices lost
(f) Amount of intra-intestinal pressure
(g) Degree of intestinal inhibition from splanchnic nerve irritation
(h) Loss of blood and plasma into intestine and peritoneal cavity
(i) Flattening or reversal of the intestinal gradient of forces
(j) Interference with diffusion of gases
(k) Adrenal depletion

We shall next discuss a little more fully some of the pathologic physiology and altered chemistry of the blood and tissues as it prevails in ileus.

1. *Increased Intra-Intestinal Pressure.* Gradually increasing pressure occurs as the result of the increased intestinal contractions striving to overcome an obstruction to the intestinal current. As a result of this obstruction, fermentation and putrefaction occur, and in addition, as a result of the increased intra-intestinal pressure compromising the venous circulation, there occurs an early and often considerable accumulation of gas. Most of this gas collects immediately proximal to the obstruction and is due principally to the interference with the diffusion of gases between the intestinal lumen and the venous radicles of the portal system. It is a common mistake to assume that the distention due to gas is due solely to fermentation and putrefaction. Recent experimental work has shown that in normal individuals considerably more gas enters the portal system by diffusion through the gut to be thus carried off to the liver and lungs, than is passed off per rectum.

If the simple obstruction is not relieved and the intra-intestinal pressure continues to rise, the early venous stasis is followed by marked splanchnic engorgement and plasma escapes into the involved tissues as well as into the peritoneal cavity. The loss of fluids due to vomiting and failure of re-absorption, as well as the tremendous splanchnic engorgement with its local loss of plasma and some nervous factor due to distention, combine to produce a so-called shock-syndrome. This syndrome is due to a diminution in the venous-blood volume-return, with a decreased cardiac output and a drop in blood-pressure and body temperature. The earliest sign is a fall in the diastolic pressure followed soon by a marked fall in the systolic pressure.

If the obstruction continues beyond this stage, then the increased intra-intestinal pressure produces complete capillary stasis with the result that necrotic changes soon begin to manifest

themselves and especially in the mucosa overlying the villi opposite the mesenteric border. It is at this stage that the real absorption of toxins occurs. These toxins are either in the nature of an entero-toxin or emanate directly from the gangrenous patches in the lower wall.

2. *Loss of H_2O, electrolytes and fixed bases.* The vomiting of gastric contents causes a loss of considerable H_2O and Cl with the result that dehydration, hypochloremia and alkalosis occur. The higher the obstruction the more pronounced are these chemical changes. The loss of pancreatic juice, either from its admixture with the gastric-contents vomitus or its failure to be reabsorbed below the obstruction, is of considerable import. It represents the loss of considerable amounts of fixed base, particularly Na, and also Cl ions and a certain hormone-like substance which affects fat metabolism in the liver (Berg & Tucker).

Since 6 to 8 litres of digestive juices are normally secreted in twenty-four hours to be reabsorbed again in the lower small bowel and colon and since this fluid contains large amounts of Cl and Na, it becomes quite apparent that this loss is productive of symptoms in any type of intestinal obstruction, most particularly however in the simple higher obstructions of the small bowel.

In the strangulation type of obstruction the interference with the local mesenteric circulation is so acute that dehydration, hypochloremia, alkalosis (or acidosis) often do not develop until after toxemia or shock or both have developed.

3. *Shock-Syndrome.* In the discussion of increased intra-intestinal pressure the production of this symptom-complex was mentioned. The symptoms due to this disturbance of the general circulation occur very early in strangulation where the mesenteric venous circulation is suddenly and completely blocked. The longer the loop that is strangulated, the earlier are the symptoms of shock due to the loss of large amounts of bloody fluid into the intestinal lumen and peritoneal cavity. A strangulated short loop is associated with less loss of blood, but with earlier gangrenous changes, hence toxemia is more pronounced in this type than the shock-syndrome. According to Blalock, Phemister and others, a sudden, local loss of blood constituents from trauma can produce a diminution in circulating blood-volume with a marked drop in blood-pressure. There occurs in almost every case of ileus at some stage, unless relieved by operation, the diminution in venous blood-volume return which is so characteristic of traumatic shock. The dehydration, splanchnic engorgement and local loss of whole blood and plasma can, and do occur. As a result of the diminished venous blood-volume-return there occurs diminished cardiac output and a drop in blood-pressure, and as a result of the loss of colloids (plasma proteins) there occurs a diminished osmotic tension in the blood. Capillary stasis occurs, resulting in increased viscosity of the blood and disturbances in the "internal respiration." In addition to these factors a nervous element is concerned in causing the anorexia, vomiting and depression (Ivy & Kelley). Meek has furthermore shown that in distention of a denervated loop of intestine in dogs they continue to eat and drink and the distention apparently does not disturb them.

4. *Transperitoneal Absorption of Toxins.* That absorption of toxins occurs and is frequently the cause of death, is proven by the profound effect of strangulation of a short loop of small bowel, which quickly becomes gangrenous. That serious circulatory damage can produce gangrenous changes in delayed cases of simple mechanical obstruction, as well as advanced cases of adynamic ileus, is proven, hence, it is most important that an early diagnosis be made and that an early operation be performed in order to avoid the dangers of extensive local circulatory damage with resulting toxic absorption.

If it is true that serious absorption of toxins does not occur until the circulatory damage has been severe enough to produce gangrenous changes, then it must likewise be accepted that the absorption of toxins cannot occur through the seriously compromised vessels and that it must occur directly through the bowel wall and into the peritoneal lymph spaces. Many experimental and clinical facts support this theory of transperitoneal absorption of toxins, but space does not permit more than a brief mention of a few:

1. Cats with experimental volvulus die in 20 hours. When the volvulus is exteriorized, the

animals live for 3 and 5 days. (McIver & White).

2. Dogs with intestinal obstruction and a thoracic-duct fistula live longer than dogs without the fistula (Costain).

3. Gatch showed by means of a closed loop, that nicotine was not absorbed in the exteriorized loop under certain conditions, but that immediate absorption occurred when the loop was reintroduced into the abdomen.

4. A dog with a closed intestinal loop can be kept alive as long as the pressure in this loop is kept below the point where absorption of toxins occurs.

5. A patient with a strangulated femoral or inguinal hernia is not nearly as acutely ill as a patient who has an internal type of strangulation.

(g) *Inhibition of Intestinal Motility from Excessive Splanchnic Nerve Irritation.*

This condition is most pronounced in cases of adynamic ileus secondary to a localized peritonitis. It can also occur after a severe trauma and particularly after extensive laparotomies. In the latter case it is always more likely to occur if pre-operative purgation has been resorted to and if ether anesthesia is administered.

That the intestinal muscle in cases of so-called paralytic ileus is not paralyzed has been proven by Alvarez and others who showed that isolated strips of muscle from these cases possessed all of the attributes of normal muscle. The flattening or reversal of the intestinal gradient which occurs is undoubtedly due to inhibition from excessive splanchnic stimulation. The experiments of Arai are quite conclusive in this respect. He produced peritonitis in dogs and noted a lack of propulsive intestinal movements. He next cut the splanchnics in another series of dogs and then produced peritonitis. The peristalsis in these latter animals remained unaffected by the peritonitis.

(h) *Flattening or Reversal of the Intestinal Gradient.* Alvarez has shown that normal peristaltic movements which propel contents from the uppermost intestinal tract to the lowermost are the result of the greater irritability, contractility, rhythmicity etc. of the upper tract, which properties gradually diminish toward the lower tract. Anything which raises the gradient lower down such as excessive splanchnic irritation, inflammation, irritating enemas, ether anesthesia, purgation, morphine (in big doses) lowers the gradient higher up, with a resulting flattening or reversal. A mechanical obstruction causes an early steepening of the gradient, followed in time by a flattening or reversal, as the intestinal musculature commences to tire. Hence the importance of treating the paralytic ileus that may follow removal of an obstruction. This is undoubtedly a true paralytic ileus, in contra-distinction to the so-called "paralytic" ileus of a localized peritonitis, which is due to excessive inhibition from irritation of the splanchnic nervous system.

(i) *Interference with Diffusion of Gases.*

An obstruction of the small bowel is followed by the accumulation of gases immediately proximal to that obstruction, whereas the intestinal fluids collect higher up in the bowel. As a result of lengthening and kinking of the gut, multiple "gas-traps" are apt to result, each trap acting as a separate obstruction.

The gas which accumulates is the result of interference with the diffusion process which normally occurs between the lumen of the bowel and the veins of the portal system as contained in the bowel wall. (This is a topic which deserves more study, however.) Likewise some of this gas is due to fermentation and putrefaction from stagnation.

(g) *Influences of Adrenals.* Animals whose adrenals have been removed die from symptoms closely simulating those of intestinal obstruction. The blood chemistry findings are quite similar too. Adrenalized dogs are very susceptible to the injections of various toxic agents. In dogs dead of obstruction the adrenal cortex shows quite constant changes. These studies suggest the possible value of cortin in the treatment of toxemia of obstruction.

SUPPORTIVE TREATMENT

The recognition of the type of obstruction, and the cause of the preponderating symptoms must govern intelligent treatment. The most important part of the treatment is early recognition, because it often prevents the serious circulatory damage which is so productive of shock and toxemia.

1. *Dehydration* from loss of H_2O and Cl is best combatted by intravenous normal saline or Ringer's solution. One must not lose sight of the fact that this type of dehydration is due to

loss of Cl as well as H_2O and that merely replacing the H_2O is not sufficient. H_2O without a definite proportion of NaCl is of no use to the human economy.

2. *Alkalosis and Acidosis.* High obstructions are usually associated with a high CO_2 combining-power of the plasma. When the loss of pancreatic juice is excessive an acidosis can occur. In some cases the CO_2 combining-power shows no change, because the tendency to alkalosis from loss of gastric juice is counter-balanced by the loss of fixed bases contained in the pancreatic juice.

The alkalosis is best met by giving saline. Any tendency to acidosis should be met by administering Hartman's solution.

3. *High N. P. N. of the Blood.*—A high N. P. N., due principally to excessive urea formation, occurs from various causes, namely 1. Dehydration. 2. Impaired kidney function. 3. Shock. 4. Toxemia.

The high N. P. N. which occurs from dehydration is lowered by normal saline. That which results from impaired kidney excretion is improved by the diuretic effect of glucose and by improving the splanchnic circulation. The high N. P. N. of shock and toxemia can be lowered by proper supportive and surgical treatment of these conditions.

4. *Excessive Splanchnic Nerve Irritation.* The so-called paralytic ileus that results from excessive splanchnic irritation is best treated by the liberal use of 20 to 50 c.c. of 20% hypertonic saline. Ivy and his co-workers have shown that the only chemical so far studied that will increase propulsive motility in a gut that has subnormal motility, is hypertonic saline. Such drugs as eserine, pituitrin, morphine and pilocarpine induce certain intestinal contractions, but they do not stimulate propulsive movements in a gut that has lost the function of propulsive motility.

Hypertonic saline possesses the further advantage in that it increases the blood-volume tremendously by withdrawing H_2O from the tissues. 100 c.c. of 15% NaCl can increase the blood-volume by 1000 c.c. In the decreased blood-volume of shock and toxemia this may be a temporary advantage, although the added H_2O is likely to escape through the "leaky" capillaries of the involved areas.

Because of its pronounced effect upon intestinal motility and of withdrawing H_2O from the tissues, hypertonic saline should not be administered in mechanical obstruction until after decompression has been obtained.

In "paralytic" ileus its administration should be accompanied by decompression by means of duodenal intubation or by jejunostomy.

5. *Suppression of Kidney Function.* Normal saline and glucose are particularly valuable. (Glucose should always be given with saline, because the former inhibits intestinal motility, while the latter stimulates it.)

6. *Improving the Splanchnic Circulation.*

Relief of the increased intra-intestinal pressure by decompression is most important. Fluids such as saline and dextrose are of value in improving the splanchnic circulation, but we must not lose sight of the effect that these solutions have of increasing intestinal secretion. For that reason the administration of large amounts of fluids should be accompanied or followed by surgical measures to lower the intra-intestinal pressure.

7. *Improving Liver Function.* A liver well filled with glycogen is better able to detoxify than one that has been depleted of its glycogen. This is another indication for the use of glucose intra-venously.

8. *Maintenance of Basal Heat-Production.*

The starvation symptoms are best met by glucose because it saves the proteins from destruction. In delayed cases as much as 75 gms must be administered every two hours to supply the necessary calories (1680) required to maintain basal heat-production.

9. *Diminished Blood-Volume of Shock and Toxemia.*

The dehydration, splanchnic engorgement and local loss of blood and plasma, produce a deficit in the general circulation, which are best met by blood-transfusion or 7% acacia in normal saline intra-venously. The transfused blood replaces some of the lost colloids (plasma proteins) which are so essential in maintaining osmotic pressure within the capillaries.

SURGICAL TREATMENT

1. *Decompression by removal of obstruction.* When this can be done without aggravating the symptoms of shock and toxemia it should be the method of choice. However if much manipulation of the gut is necessary one had better leave the obstruction alone and do instead a decompression enterostomy high up.

2. *Decompression Enterostomy.* In a previous paragraph we mentioned the fact that proximal to the obstruction only gas collects and that the fluids collect higher up, hence in order to obtain proper decompression one should do a high enterostomy. There are other reasons for performing a high enterostomy, namely (a) slow decompression is more likely to occur with a high enterostomy and is more desirable than a sudden relief of pressure. It is a clinical fact that sudden release of pressure is sometimes followed by a marked aggravation of symptoms. (b) An enterostomy performed in a "paralyzed," distended loop often produces decompression of that particular loop and no more.

In order to obtain the most efficient decompression from high enterostomy, we recommend the introduction of a soft tube for a considerable distance without manipulating the gut. To further enhance the decompression effect we recommend the use of suction by means of an electric pump,[1] such as we have described for the use of jejunal alimention, and the liberal use of hypertonic saline to increase the intestinal tone and propulsive motility.

3. *Treatment of Gas-Traps.* The multiple gas-traps, each acting as an individual obstruction, which are occasionally encountered, can be treated by a careful puncture with a fine hypo needle. Each trap is to be punctured with a fresh needle. In order to avoid leakage a purse-string or mattress stitch of fine silk is to be introduced before each puncture is made, and to be tied while the needle is being withdrawn.

4. *Exteriorization of Gut.* If we accept the clinical and experimental fact that absorption of toxins occurs through the bowel wall and thence into the peritoneal lymph-spaces, then one must exteriorize any badly damaged loop, particularly a strangulated loop, in preference to such a surgical procedure as resection and anastomosis. It is a clinical fact that most resections for this serious condition result in fatalities. The shock, dangers of peritonitis from leakage, and the temporary obstruction at the site of the anastomosis are factors that weigh heavily against resection.

In order to avoid leakage of highly infective contents into the peritoneal cavity after the exteriorized gut has been removed by a cautery, we suggest that the clamp which was applied to the exteriorized gut, be left attached for at least 12 hours, or until sufficient adhesions have formed between the parietal peritoneum and the gut. Thus a strangulated obstruction is temporarily converted into a simple obstruction. This simple type of obstruction is treated by a high decompression-enterostomy immediately after exteriorization is done.

5. *Conservation of Intestinal Juices that Ordinarily Escape from a High Enterostomy.*

The loss of pancreatic juice for a number of days is attended by serious symptoms and death, hence the greatest objection to a high enterostomy in the past has been the loss of this juice. In order to conserve this secretion one must make provision to temporarily reestablish the intestinal current by doing an enterostomy of the collapsed gut below the obstruction at the time of the performance of a high enterostomy. In cases of exteriorization for gangrene this is already accomplished and the contents from the proximal limb of the gut that had been exteriorized can be introduced into the distal limb by means of a syringe, as recommended by Wilkie or by means of a small curved glass tube, as recommended by us. The continuity of the intestinal tract is thus temporarily re-established.

In cases of simple obstruction, the collapsed bowel can be sewed into the lower end of the laparatomy wound through which the decompression enterostomy had been made and it is opened in a few days by means of a trocar. A small rubber tube is introduced through the cannula. The contents from the decompression-enterostomy can then be introduced into the collapsed gut by means of the electric pump or by means of a syringe.

SPINAL ANESTHESIA IS THE ANESTHESIA OF CHOICE

That spinal anesthesia permits of greater relaxation than ether, ethylene or nitrous-oxide is

1. Treatment of Certain Cases of Duodenal Ulcer by Jejunostomy, American Journal of Surgery, January, 1932.

accepted by everyone. Its greatest drawback seems to be the possibility of a drop in blood-pressure which can occur, but which can to a considerable degree be avoided, by the preoperative intra-muscular injections of fairly large doses of ephedrine.

The intra-venous injections of glucose and saline which are usually administered just before or during laparotomy for ileus are also valuable in maintaining the blood-pressure. Trendelenburg position and O-CO_2 inhalations are likewise valuable.

It is interesting to note that the drop in blood-pressure which occurs with spinal anesthesia but which can be avoided, is due to vasodilatation of the smaller vessels, especially of the skin and of the splanchnic area. This drop in blood-pressure is not associated with any appreciable early diminution of blood-volume or cardiac output as occurs in shock and toxemia. (Burch and Harrison)

Spinal anesthesia because it paralyzes the inhibitory or splanchnic nerves, permits of preponderance of the excitatory vagus action, with the result that the intestinal gradient is markedly accentuated. Ether on the contrary flattens or reverses the intestinal gradient. Patients suffering from shock or toxemia react poorly to ether anesthesia. The inhalation of ether as well as the retching and vomiting that occur during the recovery from this anesthetic are often attended by a not inconsiderable amount of air-swallowing.

Spinal anesthesia because of its effect upon intestinal motility has been recommended as a therapeutic measure in adynamic ileus. Even though it is effective, its action is brief. Since the advent of hypertonic saline few surgeons have felt the need of this procedure as a therapeutic measure.

Indications for Local Anesthesia. A low blood-pressure, the result of severe shock or intoxication definitely contra-indicates the use of any anesthetic excepting local infiltration and abdominal block-anesthesia. The condition of this patient would not permit of anything more being done than a hurried enterostomy.

SUMMARY

1. Three important factors enter into the production of symptoms in intestinal obstructions; (a) Disturbances of chemical equilibrium from loss of H_2O, electrolytes and bases, (b) Deficit in general circulation from splanchnic hyperemia and stasis, accentuated by local loss of blood constituents, particularly plasma, (c) Some nervous factor due to distention of gut, (d) Transperitoneal absorption of toxins.

2. Since the factors (b), (c) and (d) are due, with the exception of strangulation, to a *gradually* increasing intra-intestinal pressure, it behooves us to make an early diagnosis in order to avoid the consequences of serious damage to the splanchnic circulation.

3. A drop in diastolic pressure is the first indication that a diminution in venous blood-volume return is occurring. Hence, the importance of taking frequent blood-pressure readings in ileus cases.

4. The mechanism whereby increasing intra-intestinal pressure produces a definite chain of symptoms, depending upon the degree of pressure, length and location of the obstruction, and state of circulation, is to be recognized.

5. In the supportive treatment, normal saline is of great importance to supply the lost H_2O and Cl, whereas glucose is of great benefit to supply easily available energy in the delayed cases as well as to enhance the detoxifying function of the liver, by keeping it well filled with glycogen. Glucose solutions should never be given without saline in ileus cases, because glucose definitely inhibits intestinal motility.

6. Since adynamic ileus is due to excessive inhibition from splanchnic nerve irritation (usually from local peritonitis) one must overcome this loss of motility by administering 20 to 50 c.c. of 20% NaCl intravenously. Hypertonic saline has little effect upon normal propulsive motility, but it increases the subnormal propulsive motility as it exists in adynamic ileus, most markedly. It improves the splanchnic circulation and thus favors the diffusion of gases into the venous radicles of the portal system. A lessening of distention further favors the return of tone to the stretched, intestinal muscle.

7. The deficit in the peripheral circulation or so-called shock-syndrome is best treated by blood-transfusion. The condition of "leaky" capillaries that exists in the splanchnic circulation,

permitting the escape of plasma proteins into the tissues, is due to venous stasis from the increased intra-intestinal pressure.

8. Since the absorption of toxins is a comparatively late condition (except in strangulation) early diagnosis constitutes the most important part of the treatment of all forms of ileus.

9. The gas that collects immediately proximal to an obstruction is probably a most important factor in producing the local circulatory damage and its deleterious effects. The intestinal fluids that collect to excess higher up also increase the intra-intestinal pressure. The effect which the administration of large amounts of fluids such as saline and glucose have on increasing the intestinal secretion are to be borne in mind and decompression should be done concurrently or should immediately follow their introduction.

10. The value of exteriorization is stressed in cases of a seriously damaged loop.

11. The value of high enterostomy is likewise stressed. Conservation of the digestive juices that escape from high enterostomies must be obtained by making provisions to re-introduce these juices into the collapsed bowel below.

12. A method of treating multiple gas-traps is recommended.

13. Every operation performed for the removal of an obstruction must include the post-operative treatment of the paralytic ileus that so frequently results. This is accomplished by the intra-venous administration of hypertonic saline.

Hypertonic saline is never to be administered in cases of mechanical obstruction until after decompression has been started.

14. Spinal anesthesia, despite its one undesirable feature, which however can ordinarily be controlled, possesses so many advantages over ether, that it is the anesthetic of choice. The fall in blood-pressure which occurs with spinal anesthesia, but which can usually be prevented, is due not to an early diminution in blood-volume with decreased cardiac output but to a vaso-dilatation of the vessels in the skin and splanchnic area, the amount of vaso-dilatation depending upon the height to which the paralysis of the white rami had extended.

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APPENDICITIS AND POLIOMYELITIS*

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Report of case:

W. G. C., 92259, Evanston Hospital, boy, aged 10 years, October 16, 1931, returned from school at noon because of sudden onset of headache, rather severe, nausea and vomiting. His bowels moved once that day. Upon reaching home he told his mother that every time he vomited it caused pain in his right lower abdomen.

At 3:00 P. M. his abdomen showed on the right side over the cecal area slight tenderness and resistance to pressure; temperature 99.6 F., white blood count 18,600. The neck was not rigid, Kernig's and Brudzinski's signs were negative, reflexes normal. He did not appear very acutely ill.

At 4:00 P. M. the count was 20,400 and at 8:00 P. M. he was taken to the Evanston Hospital with another count of 18,600. At that time his chart showed a temperature of 100; pulse 82; respiration 20. At 9:00 P. M. he still complained of a headache, and still had nausea with occasional vomiting. The essential findings were: eyes, slightly painful (part of headache); throat, not reddened; neck, no pain on palpation of muscles; chin could be flexed onto chest without resistance or discomfort. Heart and lungs, normal. Abdomen: slight muscle defense on right side, and a tender spot below and medial to McBurney's point.

Spine: No rigidity of back which flexes without pain; tendon reflexes present and normal; abdominal reflexes present, but hard to elicit; cremasteric reflexes "variable." At this time a tentative diagnosis of appendicitis was made, but upon consultation it was decided that because of the severe headache chiefly and the not typical picture of appendicitis it would be advisable to delay an operation until the next morning with the hope of obtaining more evidence.

At 11:00 P. M. the blood count was 19,000 and also at 2:30 A. M. when the interne said that the child was still awake and restless, complaining of severe headache which was not relieved by aspirin, nor by hot or cold compresses.

There were backache and stiffness in neck on attempted flexion, and complaint of simultaneous back pain. The abdomen still showed slight muscle defense and tenderness in right lower quadrant; reflexes normal. Therefore, at 3:00 A. M. a spinal puncture was done by the boy's father, a doctor, which yielded clear fluid, questionably under slight pressure, and showed five cells per cu. mm.; Pandy test negative.

Soon afterward the boy went to sleep. He was awakened once suddenly by nausea which passed off quickly.

*Presented at Staff Conference of Evanston Hospital, November, 1931.

The next morning, October 17, 1931, he felt better and had only a slight headache on moving. The urine specimen was negative and leucocytosis 11,750 at 7:30 A. M. There was no more vomiting; liquids were tolerated.

At 4:30 P. M. the temperature was 99.06 F. Resp. 18. Dr. Aldrich's examination was negative except for absent cremasteric and abdominal reflexes. "I can find no abdominal tenderness or rigidity and his neck is certainly not rigid. Reflexes of extremities and face muscular responses normal, w. b. c. 12,500. I believe he should not have any more spinal punctures at present." The patient went on to a quick recovery. At 6:00 P. M., w. b. c. 9,800. A light supper caused no distress. He had no complaints and slept well all night.

October 18, 1931, he had some slight pain in head when he shook it vigorously; w. b. c. 8000. He left the hospital at 3:00 P. M. in a wheel chair. Since that time the abdominal and cremasteric reflexes have remained absent and there has been slight afternoon fever. He is now in good condition and one cremasteric reflex is normal.

J. D., 86616. The only other case on record in Evanston Hospital of the association of appendicitis and poliomyelitis was in a boy, three years old who on November 18, 1930, entered the hospital with a typical case of anterior poliomyelitis with flaccid paralysis of most of the muscles of his left arm, forearm and hand, and of his right leg. This condition followed a sore throat, slight fever, abdominal distress of November 12, 1930, and a higher fever, 102 degrees F., nervousness, irritability, abdominal distress, occasional headaches, on November 17, 1930. White blood count, November 18, 1930, was 22,450, 79% being polymorphonuclear leucocytes. No record of a spinal puncture was found. The fever continued to rise daily to 100 degrees, and on December 11, 1930, with a probable hypostatic pneumonia with rales and bronchial breathing, it rose to 101 degrees F. The child began to complain of pain in stomach during night with vomiting in morning of December 2, 1930, marked tenderness over entire right rectus which extended up over ribs, and slight rigidity; w. b. c., 61,000.

The tenderness and rigidity continued with vomiting several times. At 4:00 P. M. the w. b. c. was 33,000 and he was operated upon for acute appendicitis. A retrocecal appendix, lateral to the cecum at level of umbilicus, was found, kinked upon itself and plastered down tight with very firm adhesions.

Pathological diagnosis: Acute phlegmonous appendicitis.

After going on to ileus, later abdominal abscess and intestinal obstruction all requiring operations, the child finally made an eventful recovery, leaving the hospital January 7, 1931, in a wheel chair with the wound nearly healed. His paralysis was still present.

To the laity, or to one not familiar with both conditions, the confusion of, or even association of, appendicitis with anterior poliomyelitis would seem at least far fetched. Upon second thought the reaction would perhaps be in the other direction. In fact when this subject was mentioned to a prominent pediatrician his reply was "You will find, no doubt, plenty of literature upon the subject." As a matter of fact only two papers could be found in the literature in which the two conditions were associated, and both of them were German.

J. Dubs[1] in 1921, in reporting a case which was diagnosed poliomyelitis following operation for acute appendicitis, mentioned that prodromal symptoms of acute epidemic poliomyelitis which make it easily possible to confuse the condition with acute appendicitis have apparently not been recognized, or at least have not been noticed in the literature on the subject up to the date of writing (1921). He reports three cases: The first was one admitted to the hospital as typical acute appendicitis and operated on by himself under this diagnosis. Several days after the case was transferred to the medical service as acute epidemic poliomyelitis.

Case report: Girl, 21 years. Onset, general malaise, exhaustion, chills, loss of appetite. Vomited once. Sweating. Temperature in the evening, 39 degrees C. Next morning same symptoms. Vomiting. Slight pain in abdomen, towards evening more severe. Rigidity and sensitivity in ileocecal region. Had been constipated for two days. Operation for acute appendicitis advised. Admitted to hospital. On admittance patient looked tired and ill. Cheeks inflamed. Tongue coated. No pain on swallowing. No redness or coating in throat. Percussion and auscultation-lungs and heart normal. No dullness or bronchial breathing.

Abdomen rigid as board. Spontaneous and pressure pain particularly noticeable in right hypochondrium. Marked pain in ileocecal region. Rovsing negative. No dullness evident. Rectal examination: Douglas sensitive, no resistance to be found. Diagnosis: acute perforative appendicitis. Operation. (Roth-Drager anesthesia, iodin-alcohol disinfection, Lennander incision.) On opening of peritoneum nothing remarkable to be seen. Appendix easily removed, long free, not kinked, not adherent, quite normal. Cecum unaltered, no redness, etc. (No further abnormalities mentioned.) Typical appendectomy.

Three days later patient could not move arms or legs. Flaccid paralysis of extremities; all reflexes absent. Diagnosis: polimyelitis ant. acuta. Two days later rigidity of neck, difficult breathing, cyanosis, dyspnea. Appendectomy scar healed. No rigidity or sensitivity. Two days later temperature normal.

The second case reported was of an 11 year old child admitted as acute appendicitis in early stage. Appendectomy, followed by gradual loss of ability to move feet and legs. Week later normal motion returned.

The third case is quoted to show that prodromal

symptoms of poliomyelitis are frequently clinically confused with acute appendicitis.

F. Oster[2] reported a typical case of poliomyelitis complicated with acute appendicitis.

In looking over the records of Evanston Hospital only one other case was found where the two were associated. (Case report, as above.)

Notwithstanding this dearth of literature which possibly may be accounted for by the physician's unwillingness to expose a mistaken diagnosis, there must be many times when the symptoms are misleading. Upon two occasions the author has been called to see patients with nausea, vomiting, abdominal distress and a history of slight fever, because the parents feared appendicitis, in which the diagnosis of infantile paralysis could be made.

In differentiating between the two diseases certain important findings should be sought. In appendicitis pain, abdominal pain and distress, is the most constant and important symptom. Abdominal tenderness and rigidity are secondary to the pain and if present are important. Nausea and vomiting once or twice and a slight fever, 99 degrees to 100 degrees, are more typical of appendicitis, together with a moderate, but definite increase in leucocytes. Constipation, and right sided tenderness on rectal examination are further aids. With all these symptoms present and no others, no one could be blamed for diagnosing and operating for appendicitis.

In early acute poliomyelitis the outstanding features are headache and stiffness of the neck and resistance to anterior flexion of the neck, together with, or replaced by, headache, and pain in back on bending forward. Adding to these findings pain in the limbs on motion, tremor and characteristic spinal fluid findings, we can agree with Ayer[3] that "there is certainly little excuse for missing cases, and in epidemic times it seems hardly justifiable that a preparalytic case should ever be mistaken."

But, as is true with most conditions in medicine, the picture is likely to be garbled. We get cases of appendicitis without pain, fever, or tenderness, and poliomyelitic paralysis makes its appearance without meningeal signs, backache or changes in the spinal fluid. Fortunately such obscure cases are rare, and, as a rule, with care the diagnosis should be made. Many failures to make a diagnosis are due to careless or incomplete examination. As soon as either condition is suspected, every means should be taken to arrive at the solution, since in either case delay in treatment may be disastrous. It is perhaps, less dangerous to operate for suspected appendicitis upon an infantile paralysis patient than to allow a gangrenous appendix to rupture. Those who believe in the efficacy of the serums to prevent paralysis in anterior poliomyelitis almost unanimously urge the advantage of early administration. However, in either instance, if the symptoms are indefinite, one would be justified perhaps in waiting twenty-four hours before doing anything radical. Dr. Joseph Brennemann says[4] that he has seldom seen a case of first attack of appendicitis in children where it did any harm to wait a day to make sure of the diagnosis before operating. In poliomyelitis the paralysis does not make its appearance as a rule until 48 hours (2 to 4 days) after the first symptoms. It would therefore seem advisable to allow a reasonable time for making a diagnosis. Often the symptoms will make their proper appearance and relieve the situation.

The other point to remember is that the two pathological processes may be present at the same time, or may follow each other as in the two cases reported of appendicitis developing in the course of a frank poliomyelitis. If either condition is not running a typical course, complications or concurrent lesions should be searched for. Of course, the presence of one does not exclude the other. These patients demand close observation until the diagnosis is made and the treatment decided upon.

The surgeon is primarily interested in seeing that an appendicitis is treated promptly, which means appendectomy as a rule. He should certainly be as much concerned with seeing that an unnecessary operation is not done. The pediatrician or diagnostician will have the diagnosis made probably before consulting the surgeon, but to the surgeon after all belongs the responsibility of deciding whether or not to operate and when. Carl B. Davis[5] has said that he spends much of his time refusing to operate upon patients. The surgeon must be the last word, the obstructionist. It is a difficult situation, and one which demands much experience, tact and judgment.

Summary and Conclusion:

1. The early symptoms of appendicitis and poliomyelitis may be similar enough to cause confusion in the diagnosis.

2. In such a case it is justifiable to delay for 24 hours in order to make the diagnosis more certain.

3. As soon as possible treatment should be instituted in either case to prevent serious consequences.

4. A case leading to such confusion is described.

5. Only two articles, both German, reporting four cases of the confusion or association of the two conditions could be found in the literature.

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AGRANULOCYTIC ANGINA—A CASE REPORT OF RECOVERY FOLLOWING TREATMENT BY INTRAVENOUS INJECTION OF LIVER EXTRACT*

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Murphy, Monroe, and Fitz[1] observed that the oral administration of liver in pernicious anemia was followed by an increase in the leucocytes coincidental with the rise in the red cells. Recently Connery and Goldwater[2] noted that three out of four cases of pernicious anemia treated by massive oral administration of liver extract showed a definite increase in the white cells and granulocytes, one of the three from a white count of less than 2,000 to one of 32,000.

The feeding of liver extract has been used as a therapeutic measure in agranulocytosis. One of the three cases of recovery reported by Reznikoff[3] following the intravenous administration of purine salts had received liver extract (Lilly 343) as a supplementary measure. Taussig and Schnoebelen[4] in their report of treatment by irradiation of the long bones, record the feeding of liver or liver extract in three of the four protocols submitted, and in the remaining one, the feeding of desiccated hog stomach. The dosages are not specified, but it is noteworthy that in the recovered cases they are qualified as "large." Harkins[5] used the feeding of liver extract (Lilly 343) in doses of two to four ampules a day, as the major therapeutic measure in two of his eight reported cases. These two were classified as true agranulocytic angina and were included in his four recoveries. I have been unable to find any report of the treatment of agranulocytosis by the intravenous administration of liver extract.

Case 1. S. R., an Italian married woman, aged 43, was seen by me on Nov. 30, 1931, complaining of fever of 103 degrees and sore throat. She had had cholera in Italy in 1911 and an appendectomy without drainage in 1914. There was no history or manifestation of allergy. A small whitish exudate was present on the left tonsil, which was moderately inflamed. The patient complained of a severe headache, intense pain in the throat, and seemed disproportionately ill. A routine culture was negative for diphtheria.

Under local treatment and nursing care, gradual improvement occurred. On Dec. 3 the temperature was 100 degrees and the patient very much better, but it was then noted that a small area of necrosis was being demarcated in the left tonsil. The following morning a sharp rise in temperature to 103.5 degrees occurred with exacerbation of all symptoms and the patient was removed to the hospital.

The slough had separated, leaving a cavity with a sharp, punched-out margin; a fresh exudate was formed and the surrounding tissues were a bright red, though not greatly swollen. There was no cervical adenopathy. Smears and cultures showed only coccus forms. The blood count on entrance was 2,200 white cells; 64 per cent. small lymphocytes, 22 per cent. large mononuclears, and 14 per cent. degenerated forms of polymorphonuclear neutrophils.

The subsequent course is recorded in the accompanying chart. The patient appeared gravely ill and remained so until Dec. 12. The husband's blood was matched for cross agglutination; 30 c.c. of the whole blood, not citrated, was given intravenously Dec. 4; 30 c.c. was injected into the buttocks on each of the five subsequent days. A severe chill and sharp temperature rise occurred thirty minutes after the intravenous injection.

Beginning on Dec. 5 the contents of one ampule of solution of liver extract (Lederle) was injected intravenously for each of seven consecutive days. It was diluted with sterile freshly distilled water to a total volume of 15 c.c. and injected at the rate of 3 c.c. per minute. A violent chill lasting fifteen to thirty minutes occurred one-half an hour after each injection followed by a steep temperature rise as indicated by the chart. Local measures consisted of sodium perborate application to the area of necrosis and hot moist packs to the throat.

The blood smears of the first three days of hospital

*From the medical service of the Hospital of St. Anthony de Padua.

residence contained no normal polymorphonuclear neutrophils; the cells took the stain poorly and lacked normal segmentation. The counts of the subsequent five days showed a gradual return to normal morphology and staining characteristics before the sharp numerical rise. Myelocytes were not found in any smear. Erythrocyte counts were as follows: Dec. 4, 4,350,000; Dec. 12, 4,600,000; Dec. 30, 4,160,000;; Jan. 12, 4,200,000. Hemoglobin estimations were approximately 80% throughout. Stains made by the brilliant cresyl blue technique showed no reticulocytes on Dec. 12 and 15. The platelet count on Dec. 14 was 366,000.

On Dec. 12 the local and systemic symptoms markedly improved, paralleling the granulocyte rise. The whole upper pole of the left tonsil had sloughed out, leaving a cavity which would admit the finger-tip. This completely healed, the patient continued to improve, was discharged from the hospital Dec. 31, and is apparently in good health at present.

The peak of the total white and granulocyte count was reached ten days after the discontinuance of the liver extract and eight days after the subsidence of fever. No further liver extract, oral or parenteral, has been given.

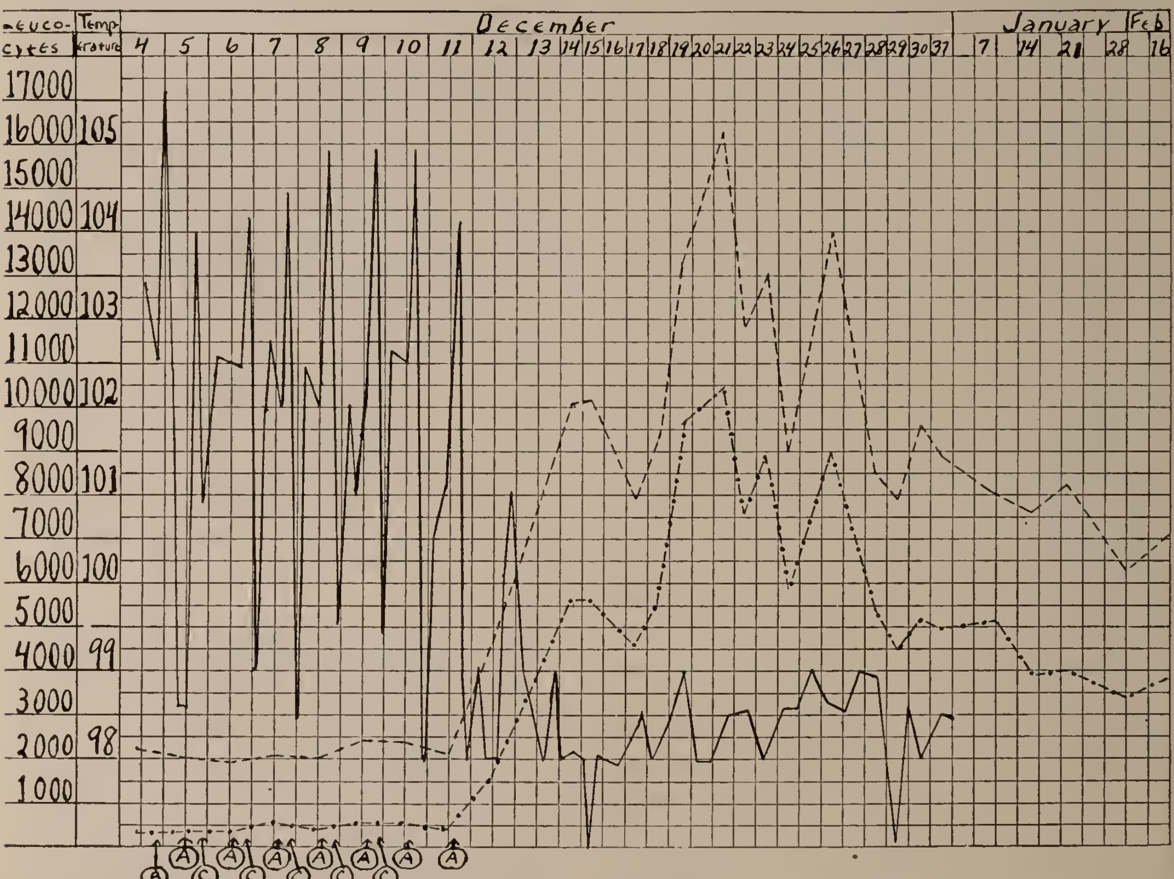
Later counts than those recorded in the chart are as follows: on March 7 while suffering from a mild pharyngitis and tracheitis there were 5,750 white cells with 45% polymorphonuclear neutrophils; on March 14, after recovery under simple therapeutic measures, the white cell count was 8,200 with 58% neutrophils.

COMMENT

This case has all the characteristics of a true agranulocytic angina according to the criteria established by Schultz[6]: an acute onset with an ulceronecrotic throat lesion in a middle-aged woman, a marked leucopenia and granulocytopenia, together with an approximately normal red cell count and hemoglobin percentage.

Obviously my experience with this single case cannot be conclusive. Although the distinctive treatment employed was the intravenous injection of liver extract, it may be objected that the recovery was due to the injections of whole blood, to some non-specific effect of the nitrogenous content of the liver extract, or was purely spontaneous.

A spontaneous recovery cannot be ruled out, but it is to be remembered that Harkins[5] col-



Solid line: temperature. Broken line: leucocytes. Dot-dash line: granulocytes.

A: solution of liver extract, 5 c.c., injected intravenously.

B: whole blood, 30 c.c., injected intravenously.

C: whole blood, 30 c.c., injected intramuscularly.

lected 150 cases from a review of the literature with an approximate reported mortality of 82 per cent. Evidently spontaneous recovery is not the major probability. Furthermore this patient after a preliminary improvement and while still under excellent nursing care relapsed into a more severe exacerbation before the liver injections were begun.

In contrast to the massive transfusions often given in this disease, the amount of blood injected in this case was negligible and the blood injections were discontinued on Dec. 9, before any decisive cell recovery was noted.

A non-specific effect of the nitrogenous content of the liver extract must be considered. Clark[7] states that the extract is free of all but a trace of protein, peptone, and proteose, and that, in unpublished work, he and co-workers have found it very difficult, by the injection of the solution of liver extract, to induce anaphylactic hypersensitiveness in guinea-pigs either to the simple aqueous extract of liver or to the purified extract itself, indicating a very low content of antigen in the preparation. He also states that they have recently been able to isolate from their purified extract hypoxanthine which is apparently united to a pentose group. The presence of this purine compound is of interest when one notes the resemblance of the leucocytic curve in this case to the charts of Jackson, Parker, Rinehart, and Taylor[8] in their report of treatment of agranulocytosis with pentose nucleotides.

The considerable evidence that liver extract contains some substance which stimulates leucocyte and granulocyte formation and the growing viewpoint that agranulocytosis may depend fundamentally on a defect in bone marrow makes the use of liver extract a rational therapeutic experiment in a disease of such uncertain treatment and high mortality. Its distinctive employment by the more rapid and intensive intravenous route with the sequel of recovery is the justification of this report of a single case.

CONCLUSION

A case of agranulocytic angina conforming to the Schultz criteria is reported. Recovery followed treatment by intravenous injection of solution of liver extract.

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CLINICAL SIGNIFICANCE OF ANOMALIES OF THE UPPER URINARY TRACT*

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The most complete, and yet most simple, classification of renal anomalies is that of Papin and Eisendrath[1] which is tabulated as follows:

1. Anomalies of number
   (a) Solitary kidney
   (b) Supernumerary kidney
2. Anomalies of volume
   (a) Hypoplasia
   (b) Hyperplasia
3. Anomalies of form
   Short, long or lobulated kidneys
4. Anomalies of location
   (a) Simple or ordinary unilateral ectopia
   (b) Simple or ordinary bilateral ectopia
   (c) Crossed ectopia with or without fusion of the two halves
5. Median fusion
   (a) Horse-shoe kidney
   (b) L-shaped kidney
   (c) Cake kidney
   (d) Sigmoid kidney
6. Anomalies of rotation
   (a) Faulty
   (b) Excessive rotation
7. Reduplication of Pelves and Ureters
8. Anomalies of pelvis other than reduplication
9. Anomalies of Vessels
   (a) Arteries
   (b) Veins

Solitary Kidney. By this is meant the presence in the body of only one kidney having but a single pelvis and ureter. Various combinations are encountered.

(a) Complete absence of kidney, ureter and ureteric orifice on one side.

(b) Same as (a) except the ureter ends at opposite side of bladder.

(c) Complete absence of kidney but a rudi-

*Presented with illustrations at the meeting of the North Shore Branch of Chicago Medical Society, April 5, 1932.

mentary short ureter ends in normally placed and developed ureteral orifice.

According to Motzfeld[2] this anomaly was found ten times in ten thousand autopsies, i. e., one in a thousand. Anders places the incidence of solitary kidney at one in every 1,800 persons. Lowsley[3] states that in 4,215 examinations he discovered a complete absence of the kidney only twice. While Eisendrath states that there are only 400 instances reported in the literature the clinical recognition of this condition is becoming more and more commonplace, and the cases are not now considered unusual enough to report. In my own experience I have encountered the anomaly four times during the past ten years. Twice the complete absence was verified by operation and twice by repeated urological examinations including intravenous urography.

The clinical features of congenital solitary kidney embrace the fact that it is prone to pathologic processes such as nephritis, stone, etc., and the recognition of the absence of the usual mate becomes a matter of serious responsibility to the surgeon. With cystoscopy, ureteral catheterization and both retrograde and intravenous urography in the hands of the diagnostician, no surgical procedure on the upper urinary tract should be attempted without proving the existing condition. Additional importance attaches itself to this recognition when anuria develops from obstruction in the single, functionating ureter. Ballowitz stressed the frequency of calculi in the solitary kidney. In 42 per cent. of Anders' series the single kidney showed advanced lesions of chronic nephritis.

Supernumerary Kidney. Kuksinskaja[4] states that supernumerary kidneys are the most rare of all renal anomalies. He found only twelve authentic instances in the literature. The supernumerary kidney is a definite, individual organ, usually found beneath the normally placed kidney. It has distinct renal pelvis, ureter and blood vessels. The ureter may combine with the other ureter of the same side and open either into the bladder or into the external genitalia of women or into the posterior urethra in men. Kretschmer[4a] by adding a second personal observation of supernumerary kidney brings the total number of reported cases to thirty. He presents a careful tabulation of the salient points connected with each instance of this rare anomaly.

As in the case of other renal anomalies, this organ is especially prone to calculus formation and infection, owing to inadequate drainage conditions.

Hypoplasia (Aplasia) of Kidney. In this condition there is a congenital lack of development of the kidney. The condition as seen clinically is usually unilateral since the presence of such an anomaly in both kidneys is incompatible with life.

Mackenzie and Hawthorne[5] have recently reported six instances of unilateral renal aplasia. The aplastic condition was more common on the left and in this series all were clinically functionless.

The chief diagnostic signs of hypoplasia are marked decrease in function as compared to the fully developed organ and characteristic pyelographic outline indicating the lack of development.

Congenital Hypertrophy of kidney is rare except as a compensatory development accompanying the diminished function or absence of the opposite kidney. Thus it may occur in solitary kidney or when the other kidney is hypoplastic.

Anomalies of Form of Kidney. Among the more common variations in form that are frequently seen clinically may be mentioned:

(a) A long kidney with a broad pedicle.
(b) A short kidney with a closed hilum.
(c) A kidney with a large upper half.
(d) A kidney with a large lower half.
(e) A kidney with persistent fetal lobulation.

Anomalies of Location. The kidney on one or both sides may be found in an abnormal location due to arrested or faulty development.

(a) *Simple or ordinary ectopia:* The kidney remains on the same side as it occupies in the embryo. Bilateral ectopia is rare. As judged by a compilation of various groups of autopsy studies ordinary ectopia occurs in 1 to every 800 or 1000 individuals. The kidney occupies a low lumbar, iliac or pelvic position. The ureter is shortened depending upon the position of the kidney and the pelvis is usually on the ventral surface. Often there is no pelvis proper, the ureter ending directly in the calices. The ectopic kidney is invariably deformed in shape and markedly decreased in size. The blood supplied to these kidneys comes by a short pedicle, one or

more arteries leaving the aorta at or above its bifurcation and occasionally additional accessory vessels arising from, or draining into, the iliacs, middle sacral, or inferior mesenteric.

Straeter[6] collected fifty-nine clinical cases in a review up to 1908. Plummer[7] added seventeen in 1913. During the past ten years the condition has frequently been diagnosed with the aid of the opaque ureteral catheter and pyelography. Due to mechanical injury and faulty drainage these kidneys are frequently the site of infection, calculous formation and hydronephrosis. In addition, an undiseased pelvic ectopic kidney may cause trouble during pregnancy and parturition.

Darner[8] reports two cases of bilateral ectopic kidneys. The kidneys were smaller than normal, had persistent fetal lobulation and their shape was markedly distorted from pressure of the neighboring structures. The vessels were small and multiple, arising from the aorta and iliacs at a low level. Caulk[9] reported a case in which suspension and fixation of the kidney to the lumbar fascia partly relieved pelvic pain and a constant desire to urinate.

(b) *Crossed Ectopia or Unilateral Fused Kidney.* In a case of crossed ectopia both kidneys are on the same side of the body.

Stewart and Lodge[10] reviewed 28 cases. They found the displaced organ generally lies below the normally situated one, its *upper* pole fused with the lower pole of the latter. The ureter from the upper pole usually enters the same side of the bladder. Usually three or four arteries pass to the fused organ. Of these two usually supply the upper and two the lower half. One or both vessels to the upper part of the kidney arise directly from the aorta in or below normal position. The vessels for the lower part were more irregular arising from the lower part of the aorta, at the level of the bifurcation, or from the common iliac of the opposite side.

Lazarus[11] reported a case of unilateral fused kidney in which hemi-nephrectomy for calculous pyonephrosis was performed successfully. Kretschmer[12] compiled eighty-six reported instances of unilateral fusion and states that patients with this condition rarely reach old age. In three operations for relief of stone and in a much larger number fixation operations were performed. Pain is the most common symptom and may be due to pressure of the large renal mass without co-existent lesion of the kidneys. The ureteral orifices are normally placed in the bladder but both opaque catheters are seen to lead to the large mass on one side of the body. In the pyelogram the calices often point toward the median line. In females the abnormally located mass may be a cause of dystocia.

Surraco[13] reported a case which seemed to cause pain from pressure on the adjoining structures. The reports indicate a larger number of males affected than females. The sides are about equal. In my own case a large hydronephrosis of the left half was successfully removed from a man aged twenty-eight years.

Medium Fusion (Horse-shoe Kidney). When the two masses of nephrogenic tissue fuse along their medial borders so that one-half extends beyond the midline of the body, we speak of the resultant anomaly as a horseshoe kidney. Such a median fusion is composed of two halves, connected by a band or bridge of tissue called an *isthmus.* The anomalies termed *L. sigmoid* and *cake* kidneys, are simply variations of the median fusion.

Botez,[14] from necropsy studies, gives the frequency of horseshoe kidney as 1 in 715; Motzfeld[2] as 1 in 500 and Küster as 1 in 1100. Eisendrath, Phifer and Culver reported a series of 133 cases collected from the literature up to July, 1925. Of these only 19 or 14.2 per cent. were diagnosed and confirmed before operation or necropsy. With modern methods of diagnosis the percentage in which the diagnosis should now be made is, and will be, much higher.

Kretschmer[15] reports five cases in which the diagnosis was made before operation.

Dobrotworski[16] states that in 560 renal operations in Federoff's clinic during the last twenty years there were noted; three cases of renal aplasia, one of hypoplasia, five of horseshoe kidneys, four of double kidneys and five of dystopic kidneys.

Boss[17] enumerates the factors in the diagnostic determination of the presence of horseshoe kidney. Frequently the condition is associated with defects of the general constitution, such as psychic impairment, physical developmental anomalies in other organs or a "hypoplastic lymphatic development." Symptoms due to the pressure of a broad isthmus on the vertebral column, or upon other organs, may suggest the

diagnosis. Inspection and palpation as a rule give little positive information. Occasionally tumor and, rarely, stone may be palpated in one-half of a horseshoe kidney. In themselves cystoscopy and chromocystoscopy are of little diagnostic worth, but the introduction of opaque catheters and subsequent pyelo-ureterography are of the greatest importance. According to Voorhoeve the direct roentgenogram is of value. It may demonstrate the following features: A vertical position of both kidneys, the inner edge running parallel to the vertebral column; a median displacement of both kidneys; bilateral ptosis of both kidneys; immobility of the kidneys in a medio-lateral direction; apparent displacement of the lower renal pole in relation to the spinal column, and visibility of the connecting isthmus. Seldom are all of these roentgenographic features present. By far the best and most positive information is revealed by pyelo-ureterography. Usually the poles are displaced so that the lower lies nearer the vertebral column than the upper; the poles of the two kidneys tend to converge, usually below. Again the insertion of the ureter is usually placed at an anomalous point, often below and lateral to the pelvis. Bilateral pyelography frequently demonstrates the relation of one kidney to the other in such a way that the connecting bridge is better localized for operative attack. Certain features noted at operation are worthy of mention: The peritoneal fold extends far laterally; the fatty capsule of the kidney is poorly developed; the renal fossa is shallow; the suprarenals are not superimposed on the upper poles; there is marked lobulation of the renal surface, and many adherent vessels are encountered. The site of the pelvis is usually on the anterior face of the kidney, thus making its approach for pyelotomy somewhat easier. The ureter may be flattened out over the isthmus. In case the kidney is to be saved after division of the isthmus, care should be taken that the ureter is freed and its proper course maintained by nephropexy.

Schillings[18] reports a case of hemi-nephrectomy for pyonephrosis in a horseshoe kidney. He reviewed the reports of 108 cases of surgically treated horseshoe kidney. In only twenty-two was the diagnosis made before operation. In twenty cases there was no lesion; eighteen showed hydronephrosis; eleven, pyonephrosis; twelve, tuberculosis; thirty-two, stones; four, neoplasm; and three, cysts. There were two cases of nephritis and two of trauma to the kidney; one case was complicated with a fistula and one with a ureteral stone. Heminephrectomy was performed in fifty-two cases; eight patients died. Palliative operations were performed in thirty-seven cases, with death in four.

Haas[19] describes an unusual case which showed three different types of tumor in the resected half of a horseshoe kidney. In this patient the sections showed hypernephroma, adenoma, and papilloma of the renal pelvis.

Siedner[20] reported a successful ureteral anastomosis to the opposite renal pelvis in a horseshoe kidney. The resected ureter was irreparably stenosed.

Harbitz,[21] from a necropsy study, found calculi in 18 horseshoe kidneys.

Kimbrough[22] reported a case of carcinoma of a horseshoe kidney occurring in a man, aged 35 years. Hellsten[23] found eight tumors in 107 cases of operative horseshoe kidney. Morley[24] reported a case of papilloma of the renal pelvis causing hydronephrosis. Wolff[25] reported a case of hypernephroma with extensive metastasis, even in the opposite renal segment. In most of the published reports the cases are unusual in that the tumors were always found in the right half of the horseshoe mass.

Pathologic changes are more common in horseshoe kidneys than in normal kidneys. Obstruction, infection and stone result from improper urinary drainage. The diagnosis should be easily made by urography, either through ureteral catheters or by intravenous injection. Operation upon the horseshoe kidney should always be by the extraperitoneal route, and one must bear in mind that there are many anomalous vessels and that the pelvis is almost always on the anterior aspect of the mass of renal tissue.

REDUPLICATION OF RENAL PELVES AND URETERS

(a) *Unilateral Double Kidney (Complete Reduplication).* In this event there are two ureteral orifices on the corresponding side of the bladder, two ureters completely separated throughout their course and two separate renal pelves which rarely communicate. The upper ureteral orifice in the bladder always drains the lower half of the kidney. The kidney on section may show a line of demarcation between the two halves or there may be no such separation.

(b) *Bilateral Double Kidney (or Complete*

Reduplication). This term designates the condition when the above (a) is bilateral.

(c) *Unilateral Incomplete Reduplication.* There is a single ureteric orifice but the ureter divides at various levels to form separate ureters and renal pelves, which enter their respective halves of the double kidney.

(d) *Bilateral Incomplete Reduplication.* This is the least common of these anomalies and designates a bilateral condition of (c).

(e) *Double Kidney (Without Ureteral Reduplication.)* This condition is found in from two to three per cent. of all autopsies and has no clinical significance except in relation to the distribution of the renal blood vessels. The clinical recognition of double kidney with reduplicated renal pelves and ureters has been frequent since the widespread use of cystoscopic diagnosis. Where both ureteral orifices are apparent on the one side of the bladder the condition is obvious but where the division is higher up ureteropyelography is the only method of demonstrating double kidney.

Eisendrath[26] has made a comprehensive study of this condition. Mertz[27] originally called attention to the typical radiographic appearance of the upper (cephalic) and lower (caudate) pelves and demonstrated that, by withdrawing the ureteral catheter into the lower ureter before injecting the opaque solution, the double ureters and pelves could be clearly outlined. In eighty cases subjected to operation the lesions most often found were pyelonephritis, calculi, hydronephrosis and tuberculosis, in the order named.

Alessandri[28] reported a case in which there was an anomalous orifice in the urethra of one of two left ureters and a duplication of the right ureter and bilateral double pelves. The patient was incontinent of urine since birth. The superior renal segment on the left was one-third the size of the entire kidney, had its own vessels and was removed successfully with resultant cure of the incontinence.

Eisendrath[29] reported the only instance of successful bilateral heminephrectomy I can find in the literature. The number of successful heminephrectomies done for disease localized in one-half of a double kidney is increasing rapidly since our more thorough knowledge of the anatomy of this condition and the ability to diagnose it accurately before operation.

During the last ten years with the more universal application of cystoscopy and urography, renal and ureteral anomalies have been found with greater frequency. The cystoscopic examination is not complete without a careful search for a possible extra-ureteral orifice. If there is any suspicion of an anomaly, and double openings are not found a ureterogram taken with the catheter drawn low in the ureteral course will not infrequently reveal a second ureteral branch leading to a second pelvis. If in primary pyelography the pelvis lies low or high, or a lower or upper major calyx is absent, the possibility of duplication of the pelvis or ureter should be considered. Failure to observe this technique has lead to diagnoses of renal tumor, etc. from the bizarre outline of the single pelvis of a really normal double kidney.

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SURGICAL ANATOMY OF THE THYROID GLAND

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The natural inference that the anatomy of the thyroid gland has been completely described in text-books is incorrect. One is surprised in reading the literature to find many facts of importance in the surgery of the gland not even mentioned.

The object in presenting a paper on so commonplace a subject as the anatomy of the thyroid gland is that research is finding not only new facts, but also anatomical relationships at variance with generally accepted ideas. It is believed that a knowledge of these facts will lessen the complications which may accompany surgical removal of the gland, and that a planned procedure based on an intimate knowledge of the anatomy will simplify the technic and reduce the operating time—both factors of importance in determining the outcome.

The thyroid gland is an essential organ common to all vertebrates. It weighs from twenty to forty grams, and is usually larger in the female than the male. It consists of two lobes and an isthmus. The right lobe is frequently larger than the left. It is located in the neck and extends from the oblique line of the thyroid cartilage to the sixth tracheal ring. The isthmus is situated over the second, third, and fourth tracheal rings, and is continuous with the lateral lobes. It may be entirely absent. The gland surrounds the trachea, cricoid, and thyroid cartilages. The superior pole may be invisible high up at the upper posterior lateral border of the thyroid cartilage. Sometimes the lower poles extend down below the sternum into the thoracic cavity. Accessory thyroid masses occur in the region of the upper poles along the trachea and occasionally about the arch of the aorta.

Embryology. The thyroid gland is developed by a process of invagination and overgrowth from the portion of the respiratory tube which later becomes the pharynx. The remainder of this tube becomes the larynx, trachea, and lungs. The respiratory tube is developed from the portion of the primitive gastro-intestinal tract which becomes the esophagus. The glandular portion is developed from endothelial cells, the capsule is mesodermic in origin.

The thyroid develops as a cluster of cells in the region of the pharynx from which the tongue is developed, the tuberculum impar of Hiss. Its location can be seen early and identified by the chromophile cells which are present. These chromophile cells are found in the anterior pituitary body, adrenals, and vegetative nervous system, and are a possible explanation of a common origin and inter-relation which these structures have. It also suggests the explanation for some symptoms in hyperthyroidism not accounted for by the thyroid alone.

The gland grows downward from its point of origin to which it is connected by a duct, the thyro-glossal duct. This duct is patent in some lower forms, but in the human remains only as a vestige. Occasional cysts occur in the neck, always in the midline and usually above the hyoid bone near the base of the tongue. They are persistent portions of the thyro-glossal duct.

Williamson and Pearse of London state that the thymus and thyroid are originally both neck organs. The thyroid in the human embryo is developed in the region of the gill arches and suggest a direct connection with the gill system in fish. In fish the lymph channels from the thyroid empty into the inferior jugular vein and in higher types directly into the venous side of the heart. In man the gills are lost as is also the connection with the heart. The thymus gland is only present in animals (fish) when the direct connection with the heart is absent. Their explanation of the facts is that the gill thyro-venous system has a general respiratory function in fish which has been replaced in man by the thyro-thymic system which carried on the same function in a system without gills. Their contention is that the extra thyroidal lymph system is the connection between the thyroid and thymus and that the two glands should be considered as part of one system, and that the thymus is the lymph reservoir of the thyroid. The blood supply and the nerve supply in both glands are derived from the same source. They also suggest that some of the nerve arches of the thyro-thymus system through the sympathetic and vagus may persist and explain some of the heart symptoms found in hyperthyroidism with exophthalmos.

The gland is covered by a distinct or true capsule from which projections enter into the substance of the gland dividing it into lobes and lobules.

Outside of the true capsule of the gland is a layer of the deep fascia of the neck called the pretracheal fascia. This fascia is a part of the deep fascia which surrounds the entire neck, and is separated from the superficial fascia and skin by loose areolar tissue and fat. It is this layer of areolar tissue containing fat which makes it possible to retract the skin flap and expose the deep fascia. The skin flap consists of skin, superficial fascia which is very thin and is continuous below with the fascia covering the pectoral muscles and is attached above to the jaw. The platysma muscle is immediately beneath the superficial fascia.

The pretracheal fascia covers the thyroid in front, gives off layers which cover the sternothyroid, sternohyoid, the sternocleidomastoid, and the anterior belly of the omohyoid muscle. These muscles partly cover the gland and are either retracted or partially cut in exposing the gland. It gives off a layer which forms the anterior wall of the compartment which encloses the large vessels of the neck, the carotid arteries, the jugular vein, and the vagus nerve. Just before it continues on behind, it gives off a thin layer which is attached to the posterior outer border of the trachea and fixes the gland to this organ. The parathyroids, two on each side, lie on the inner surface of this layer of fascia close to the trachea, and are covered by a fascia of their own and separated from the gland by the true capsule. The pretracheal fascia then continues behind the trachea and is separated from the prevertebral fascia by a thin layer of areolar tissue, and is continuous with the pretracheal fascia of the other side. Above, the pretracheal layer of deep fascia is attached to the hyoid bone and below it blends with the pericardium. The portion which goes behind the trachea is attached above to the base of the skull and below blends with the covering of the large vessels at the base of the heart and terminates in the pericardium. The pretracheal fascia is important in that it forms a closed space which contains the thyroid, parathyroid, thymus, trachea, and esophagus, and forms the inner boundary of the space which contains the large vessels of the neck and the vagus nerve. In the region of the isthmus and posterior median border of the gland, this fascia forms the anterior and lateral ligaments which attach the gland to the thyroid and cricoid cartilages. These ligaments are cut in freeing the gland from the trachea and larynx.

In the midline anteriorly it limits the longitudinal incision of the deep fascia above to the attachment to the hyoid bone. It is attached to the true capsule of the gland by a loose areolar tissue which makes extra-capsular removal of the thyroid surgically possible. Laterally it lessens the danger to the deep vessels of the neck.

The blood supply of the thyroid gland consists of the superior and inferior thyroid arteries. Sometimes a third artery, the thyroidea ima is present. It supplies the isthmus and arises in the innominate artery or directly from the arch of the aorta.

The superior thyroid arteries are branches of the external carotid and are given off just above the point where the common carotid divides into the external and internal branches. The superior thyroid enters the lateral lobes at the superior poles and supplies the anterior portion of the gland. Its direction is from above downward, and is accompanied by the superior laryngeal branch of the vagus nerve which divides into an external and internal branch just before it reaches the upper pole of the thyroid gland. The remainder of the nerve supply consists of branches from the median and inferior cervical ganglion of the sympathetic.

The importance, surgically, of the anatomical relation of the superior thyroid artery and the superior laryngeal nerve is based upon the following facts. The intrinsic muscles of the larynx control both respiration and phonation by their action on the vocal cords. Respiration is made possible by the adductors which hold the vocal cords apart. Phonation is due to the action of the adductors which draw the cords together. The cricothyroid muscles, by their action on the cricoid and thyroid cartilage, tense the vocal cords. The posterior portions of the cords are brought together by the adductor action of the inter-arytenoid muscles. Interference with those two muscles by injury to their nerve supply would produce a partial paralysis of the cords and interfere with normal phonation. "The usual teaching in anatomy and laryngology to-

day is that the superior laryngeal nerve is sensory to the mucous membrane of the larynx through its internal branch, and motor only to the cricothyroid muscle, and that the recurrent nerves are motor to the remainder of the larynx."

Lahey reports that in ten out of twelve larynges the interarytenoid muscles were also supplied by the internal branch of the superior laryngeal nerve, and in two cases these muscles were supplied by both the superior laryngeal nerve and the vagus.

Nordland in nineteen dissections found eighteen supplied only by the internal branch of the superior laryngeal nerve. One received its supply from both the superior laryngeal and recurrent laryngeal nerve. The superior laryngeal nerve lies parallel to and in close proximity to the superior thyroid artery. In view of the facts it would appear better to ligate the superior thyroid artery close to the capsule or by including a small portion of the superior pole as suggested by Kocher, and so lessen the danger of injury to the superior laryngeal nerve. This anatomical relationship may be the cause of interference with action of the vocal cords in cases where it is certain the recurrents were not injured. That is, some hoarseness is due to injury to the superior laryngeal nerve and is explained by the nerve supply to the interarytenoid muscles as described.

The inferior thyroid arteries are branches of the thyroid axis of the subclavian arteries. They pass through the pretracheal layer of the deep fascia in the areolar tissue which separates the true from the surgical capsule, pass upward along the posterior and latter aspect of the lower pole to enter the gland at the hilum. The inferior arteries supply the posterior aspect of the gland.

The Recurrent Laryngeal nerve remains to be described. It is important because of its anatomical relations to the inferior thyroid artery and the danger of injury in removal of the thyroid gland surgically.

Gray states that the recurrent laryngeal nerve passes posterior to the inferior thyroid artery on both sides. The usual description places it close to the trachea in the groove between the trachea and esophagus, and separated from the gland by a layer of fascia. Lahey in the dissection of twenty-two cadavers found that on the right side the nerve was more often anterior to the artery and was posterior on the left side. The same opinion is expressed by deQuervain. Nordland confirmed this finding, and says the layer of fascia is not always present. Since the recurrent laryngeal nerve may be anterior to the artery and farther from the trachea than usually described, it is safer to ligate the artery outside of the surgical capsule as suggested by deQuervain and others. It has the added advantage of positive identification of the main artery with more definite hemostasis.

The nerve supply of the thyroid is derived from the median and inferior cervical ganglion of the sympathetic and the superior laryngeal branch of the vagus. It is through the sympathetic and vagus that the inter-relationship between the endocrines and the general nervous system is brought about.

The veins of the thyroid gland consist of a plexus of large veins situated immediately beneath the true capsule. They drain into the internal jugular vein. These veins anastomose freely and bleed profusely and require ligating at both ends to prevent troublesome hemorrhage. The internal jugular vein lies a little behind and slightly to the right of the common carotid arteries. Both vessels are covered by a layer of the pretracheal fascia, the same fascia which covers the thyroid gland. After removal of the lateral lobes of the thyroid the carotids can be seen pulsating in the bed of the gland and covered only by the fascia. The necessity for care is self evident.

The lymphatics of the thyroid gland are usually described as accompanying the veins and leaving the gland through the capsule to terminate in the superficial and deep cervical lymph glands.

Williamson and Pearse describe a second lymph system separate and distinct from this system which surrounds the primary follicle in the thyroid gland, and which are continuous with the lymph spaces which surround the lobules. These unite and leave the gland as channels at the hilum along with the arteries, and terminate in the thymus gland or accessory thymus tissue in the neck, usually in the region of the upper poles. They have named this the thyro-thymic system and consider the thymus as a reservoir for lymph formed in the thyroid

gland. It differs anatomically from the lymph system of the capsule in that it is a closed system independent of the cervical lymph glands, leaves the thyroid at the hilum with the arteries in place of the veins and always terminates in thymic tissue. (Thymus gland or thymus tissue, identified as thymus by the presence of Hassall bodies.) They attribute special functions to this system which explains certain symptoms in the toxic goiters especially of the exophthalmic type. It also explains the presence of secondary tumors of the thyroid not connected with the cervical lymph glands.

SUMMARY

1. Embryology offers an explanation for the situation, relationship, and functions of structures.

2. A knowledge of the fascial planes of the deep cervical fascias increases the safety of the surgical removal of the gland.

3. Ligation of the superior thyroid artery close to the capsule lessens danger of injury to the superior laryngeal nerve, and prevents interference with phonation in cases in which it is certain the recurrent laryngeal nerve was not injured.

4. Ligating the inferior thyroid artery outside of the surgical capsule lessens the danger to the recurrent laryngeal nerve, and lessens the danger of primary and secondary hemorrhage from the artery.

5. A planned operation based on an intimate anatomical knowledge of the structures encountered lessens the operative time and increases the margin of safety.

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ORGANIC SULPHUR IN THE TREATMENT OF SECONDARY ANEMIA

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JOLIET, ILL.

The purpose of this paper is to study the action of organic heterocyclic sulphur preparations on hematopoiesis in the treatment of secondary anemia.

Liver and liver extracts have been demonstrated as specific in the treatment of pernicious anemia and beneficial results have been obtained in cases of secondary anemia. This action was in general attributed to the high copper content of the liver (Waddell[1]). Liver contains from 20 to 45 times as much copper as muscle tissue and to a great extent more than almost any other organ of the animal body. It has been shown that the liver has a copper content as high as 15 mg. per 100 gm. Elvejehm and Hart[2] of the University of Wisconsin found that copper acts as a supplement to iron in increasing hemoglobin in nutritional anemia in chicks. Waddell and his associates could show that the addition of small amounts of copper salts along with the iron brought about a prompt cure of an anemic condition produced in young rats by a diet of whole milk. These effects could never be duplicated on human beings with entirely satisfactory results, and up to the present time the action of copper as an important factor in the formation of red coloring matter of the blood is not generally accepted. A. Locke and E. R. Main[3] have demonstrated that a great number of toxin producing, sporeforming, anærobic or ærobic bacteria need copper as a catalytic agent for cellular respiration. The authors mention that the copper content per 1,000 c.c. of moist substance of streptococcus viridans is as high as 1,060 mg., while that of the bacillus subtilis contains 340 mg. and B. tetani 175 mg. of Cu. It was shown by these authors that the production of toxin by the diphtheria bacillus can be partially inhibited by reducing the concentration of ionic copper available from its culture medium to a level which still supports normal growth. They also observed that in pernicious anemia a marked copper retention takes place, which may be associated with the absorption of a Cu-carrying principle. Toxin producing, anærobic and sporeforming bacteria were found in greatly increased numbers in the stools of person suffering from the disease.

It was recently shown by Locke[3] that copper free liver extract exerts a similar action as the copper containing preparation. It seems therefore that the active principle of liver preparation must be some other factor than copper. There is reason to believe that sulphur plays an important part.

Von Bibra[4] showed an analysis with 0.965% S in the liver, 0.791% S in the heart, and 0.860% S in muscle tissue. Krueger[5] in his analyses to determine the sulphur present in human livers of different ages found that the liver of a mid-

dle aged man showed 0.0041 gm., while an infant aged only several hours presented 0.0183 gm. sulphur in 100 gms. dry liver substance, i. e., 4½ times as much. This storage in the liver of infants points to sulphur as an agent necessary for hematopoiesis and cellular growth in a direct or indirect manner.

The Research Institute of the Lankenau Hospital in Philadelphia[6] showed that the presence of lead salts in solution retards the growth of seedling roots by decreasing the reproduction rate of cells by division and that the plant, in order to overcome this handicap, combined the metal with an organic sulphur compound containing the SH group, possibly glutathione. It was also shown that these compounds are always present when through injury or other causes the rapid production of new tissues was required. Further tests indicated that sulfhydril bodies such as thiogycollic acid, cysteine and others, when administered to plants, will cause rapid growth of roots, and when furnished to the lower forms of animal life (paramecium) will stimulate vigorous growth by increase in cell number. Wounds on rats and humans treated with these compounds show a fine cellular growth and granulation.

1. *Chemistry:* The purpose of this paper is to study the action of organic sulphur preparations. Mercaptans are found abundantly in animals. In the human urine methylmercaptan can be isolated after eating cabbage, cauliflower, asparagus, etc. It is also produced in the ileum and ascending colon by the action of certain microorganism on proteins. It was found to be constantly present in the gases formed from the decomposition of normal feces (Nencki,[7] Herter[8]). The action of heterocyclic compounds of sulphur as thiophene was studied by Gunar Hultgren[9]. He found that subcutaneous administration of thiophene has a feeble action, similar like benzene, on bone marrow to produce thrombocytes and leucocytes with polymorphic nuclei. He states thiophene to be a violent poison, causing convulsions, muscular weakness, fall of blood pressure and finally death. No mention is made of oral administration, or intestinal injection of such bodies.

We, therefore, attempted to study the effect of oral administration of heterocyclic hydrocarbon sulphur compounds when made water soluble by mild sulphonation and subsequent neutralization. The compound thus obtained represents a brown powder having a characteristic odor and taste. It is entirely soluble in water, partially in ether and alcohol, incompatible with alkali carbonates and hydroxides, mineral acids and strong saline solutions. The product used in these experiments was prepared as follows: An olefinic hydrocarbon oil is distilled, the distillate mixed with sulphur and the mixture treated in the presence of a catalyzer (iron compound) under high vacuum with the aid of superheated steam. The resulting hydrocarbon sulphur bodies containing not less than 4.5 per cent. sulphur in heterocyclic structure are for the purpose of rendering them water soluble, refrigerated and subjected to a quick treatment with chilled fuming, sulphuric acid, whereby only a small amount of sulphonated products are formed. The sulphonic acid group is converted into a sulphonate. The end product is called "Compound X."

Also a compound of milk casein with this heterocyclic hydrocarbon sulphur compound was tried. It is prepared as follows: An aqueous solution of Compound X is mixed with an ammoniacal solution of casein and the mixture precipitated with diluted sulphuric acid. The precipitate is well washed to remove all inorganic salts and acid, filtered and dissolved in dilute aqua ammonia. The solution is dried at 50° C. in a high vacuum. It is called "Compound Y."

2. *Animal Experimentation:* We asked two research institutes to carry out animal experiments. In the beginning we were especially interested in the action of Compound Y on hemoglobin production. The University of Chicago, Department of Physiology, studied the influence of Compound X upon the amount of hemoglobin present in chickens. The results tabulate as follows:

No. of chickens	Compound X added per 100 lbs. feed	Average Hb Dare
12	0	85.5%
6	1 oz.	90.0%
6	1½ oz.	96.3%
6	2 oz.	92.6%
6	2½ oz.	76.6%

It is evident from this table that the addition of Compound X produced an increase in hemoglobin as long as not more than 1½ oz. was added to each 100 lbs. of feed. Adding 2 oz. pro-

duced a slight decrease of hemoglobin, the average level however still being above the figure without Compound X and 2½ oz. produced a steep fall due to the toxic effects of too large a quantity of Compound X, resulting in an enteritis.

The next animal experiment was carried out by Dr. C. B. S. Evans in the Department of Physiology, Northwestern University. The purpose was to find out whether or not Compound Y could overcome an artificially produced nutritional anemia. A series of 24 white rats was given a whole milk diet until a satisfactory anemia was produced. Then 100 mg. of Compound Y per animal was added to the milk diet of 12 rats while the others continued without Compound Y. The average red count of all 24 white rats on the day of starting of Compound Y was 6,741,000 cells.

Average red count of 12 rats	After 22 days	After 43 days
Fed milk without Compound Y.....	6,662,000	7,236,000
Fed milk with 100 mg. Compound Y..	8,210,000	9,988,000

Corresponding to this increase in red cells in spite of the unfavorable influence of the diet we found an increase in hemoglobin. Starting from an average hemoglobin reading for all 24 white rats of 60%, we could show that the rats without Compound Y presented an average hemoglobin of 49.6% after 43 days, while the Compound Y fed rats had reached an average of 72.5%. From these tests Dr. Evans concluded that after a short period of hemoglobin volume decline follows a nearly steady level which is later succeeded by a rise above the starting point; secondly, that there is a marked increase in the erythrocyte production.

The third animal experiment was carried out by Dr. Evans on dogs. Two dogs, kept constantly in the same environment were bled 30 c.c. biweekly over a period of 8 months. They were fed once daily a bread so composed as to sustain life indefinitely, but to prevent any increase in hemoglobin formation. The technic followed was the standard Whipple method. When a level had been reached at which the regeneration of hemoglobin following these induced hemorrhages was at a fairly constant minimum the dogs were fed a daily addition of 2 gms. of powdered Compound Y, the routine bleeding being continued. Dog 1, which had finally reached a hemoglobin level of 36% due to the bleeding and a red cell count of 4,700,000, showed 4 weeks after the starting of Compound Y a hemoglobin of 49.1% and a red cell count of 6,200,000. The findings in dog 2 were very similar. It furthermore should be noted that dog 1 before administration of Compound Y was so anemic that he would faint after running from his cage to the laboratory. After the first week of Compound Y administration he no longer fainted, but showed progressive increase in vigor, being able to do more exercise as the time went on and never was found to have fainted after his exertions.

3. *Clinical Investigation:* Our attention was mainly directed toward those cases of secondary anemia where the primary causing factor was not obvious. We mean chiefly the condition which in German literature is frequently called "the simple constitutional anemia." This type of patients show a more or less pronounced pallor, their vitality in work and physical exercise is greatly diminished and their resistance against infection is decreased. They complain about headache and sometimes backache, they tire easily and usually about the middle of the afternoon they are at the end of their strength. The cause of the anemia found in these cases is often not quite clear, but it is evident that the occupation, long working hours, lack of sunshine and sleep and sometimes improper food play an important role.

The course of our experiments was as follows: We chose carefully among the patients to be treated those that were generally regarded as healthy except for their run-down condition. None of these patients were confined to bed. We saw to it that they continued their work to which they were assigned and that they lived the same life they were accustomed to. We especially arranged that no medicaments other than Compound Y was taken during the entire 4 weeks' test period. Compound Y was administered in tablets, 5 grs. each, 3 tablets three times a day, totaling 45 grs. An initial and thereafter weekly blood count was taken, curves for red cells and hemoglobin readings were plotted and the weight of the patient before and after the treatment was determined. Of the great number of patients available for this type of work we chose forty who seemed to be typical representatives of the simple constitutional anemia, who promised to cooperate with us for the period of 4 weeks and whose blood counts

numbered between 2,500,000 and 3,300,000 with a hemoglobin between 50% and 65%. The same number of male and female patients were used.

By means of our intermediate counts and plotted curves we could notice a distinct change after the first week. In almost all of our cases the hemoglobin line rose in a steeper curve than did the red cell line. The former, however, flattened out usually around the third week, while the latter continued to rise. In other words, the improvement was noted first in the hemoglobin and then in the erythrocyte count. Jointly with the improvement in the amount of blood we noticed an increase in the weight of the patients. At the end of our 4 weeks' period practically all of our patients had gained weight, the increase ranging from a minimum of 2 lbs. to a maximum of 7 lbs. Most of them told us without our asking that their subjective condition was considerably improved, that they felt less tired and that their appetite had increased.

Summarizing our final results we found that 72% of our patients had returned to a normal count of 4½ respectively 5 million red cells and to a hemoglobin reading of 80% or better. The remaining 28% had not reached the normal limit, mainly on account of the severity of their status before the treatment; however, all of them showed an improvement proportional to that found in the larger group.

Some of our patients asked us at the end of the 4 weeks' period to continue their treatment. We had, however, the opportunity of examining a few of our patients who had discontinued the treatment, after an additional period of 4 weeks. The findings were quite varying. While some had improved their hemoglobin reading and red cell count even above the figures found at the end of the first treatment period, we found others who had remained stationary and several who were below. We believe that this marked variation is due to the individuality of the cases and depends on numerous factors which are uncontrollable from an experimental standpoint.

In a second group of 19 patients which was treated exactly like the first group we put all cases where the secondary anemia was caused by some known factor. This group included traumatic hemorrhages, metrorrhagias, postpartum hemorrhages, post-operative anemias, hemorrhoids with profuse loss of blood and bleeding ulcers. Treatment was started in each case immediately after the hemorrhage was controlled. Forty-five grs. of Compound Y was given and all other medicaments of hematopoietic nature were omitted, wherever possible. Depending on the severity of the previous loss of blood it required generally from four to eight weeks to restore the patient's red cell count and hemoglobin to figures approximating normal. We realized, however, that this second group was not as convincing, due to the fact that there is a normal phsiological tendency of increased hematopoiesis in cases of acute hemorrhages. Still we believe that the administration of Compound Y produced an increased stimulus to the formation of blood which seemed to be absent in corresponding cases which were not treated.

We have not as yet ascertained by what biochemical process in the animal body our favorable results were obtained. Seyderhelm,[11], who founded the theory of the enteral genesis of the pernicious anemia, pointed out that liver therapy can succeed only when at the same time the intestinal function returns to normal, i. e., the colon bacilli disappear from the stomach and the upper intestinal tract. Koessler and Maurer[12] see as cause of the pernicious anemia a formation of intestinal toxins due to lack of certain vitamins. Numerous other theories of the enteral origin of primary and secondary anemia are advanced, but none so far could bring definite proof. It is therefore easily possible that the administration of organic sulphur in form of our "Compound Y" produces changes in the intestinal flora which bring about improvement of the secondary anemia by removal of its still unknown causing principle. Detailed experiments are being carried out at present on this subject.

St. Joseph's Hospital.

Summary

1. A heterocyclic hydrocarbon sulphur caseinate has been developed.

2. Experiments on chickens, rats and dogs prove the efficacy of this compound in hematopoiesis and hemoglobin formation.

3. Strict clinical investigation on forty patients with a constitutional secondary anemia, otherwise healthy, corroborates the findings in

the animal experiments of a marked formation of red cells and hemoglobin.

4. The bio-chemical process underlying the favorable results obtained is still unknown. Further research in this field, however, is being carried out.

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THE USE OF GLUCOSE IN SURGICAL THERAPEUTICS

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This brief article deals with a subject which is very old, but which has some very modern aspects.

Sugar has been used as a medicine for about four thousand years. The ancient Hindu priests scraped the minute sugar crumbs from the stalks of sugar cane and used them on wounds. The Egyptian priests were familiar with its uses as well. In the Bible, honey, which is sugar, is often mentioned. During the middle ages sugar was widely used as an application to wounds to promote healing and to prevent putrefaction.

About fifty years ago its use became more firmly established upon a more scientific basis, and since about the year 1900 it has formed the subject for a great many brilliant researches. Today we have glucose, also called dextrose, which is the ultimate refinement of the old sugar. Glucose can be regarded not only as an almost perfect food, but also as an important therapeutic agent.

At this point we wish to make it clear that we are not concerned here with diabetes, nor any other general systemic disease in which the normal sugar metabolism of the body is changed. Nor with pharmacologic or other actions which glucose has or might have, such, for instance, as appears in the treatment of varicose veins. We shall limit ourselves to the more common surgical conditions and their complications.

Let us now look into the normal physiological aspects of glucose metabolism. Glucose is necessary for the normal functioning of the human body. It is absorbed from the small intestine, stored in the liver as glycogen, distributed throughout the body by the blood stream and metabolized by the body cells, more especially the muscle cells. In the process of this metabolism each glucose molecule is broken up into six molecules of water and six molecules of carbon dioxide. At the same time there is energy and food furnished to the body cells. There is no residue, no waste product. The entire process is the normal physiological course of events in the living and functioning body.

This brings us to the point which we wish to make, which we have led up to in this somewhat elementary discussion—there is no better way by which water can be brought *into* the tissues of the body at the very moment when the cells require fluid by reason of their metabolic activity in acquiring food and transforming it into energy. Water is absolutely essential to all living cells, more especially when the tissues are in a state of water depletion.

This fact, that each molecule of glucose is metabolized completely, leaving six molecules of water *within* the tissue cells while furnishing food and energy to them, has not been sufficiently stressed by physiologists and has not been completely understood by many surgeons.

Now let us pass on to the therapeutic aspects of glucose. And let us base our therapeutics upon the principles of physiology, just stated above. It is probably safe to say that therapeutic measures which are based upon normal physiological actions are safe and beneficial measures, while unphysiological methods of treatment may get us into trouble. With these points clearly in mind we can now make a broad general statement in this way:

Glucose solution is indicated in any disease condition or in any postoperative condition in which the tissues require water, energy and food.

Some of the more important of such conditions are the following: traumatic shock; hemorrhage, especially slow, protracted bleeding; bili-

ary tract disease, with or without jaundice; hepatitis; dehydration; emaciation, such as is due to cancer, especially cancer of the esophagus, stomach, or bowel, where the patient cannot use food by mouth; peritonitis; chronic infections, such as prostatitis, salpingitis, empyema; surgical conditions in the presence of chronic alcoholism; tetanus, when the patient cannot swallow; and last, but far from least, postoperatively glucose should be given routinely (a) when the operation has lasted a long time; (b) when there was a large amount of anesthetic used; (c) when the loss of blood was considerable; (d) when there is the possibility of severe postoperative shock, and (e) when there is the slightest possibility of postoperative peritonitis.

The last phase of this paper deals with methods of administration of glucose solution.

The first consideration regards the tonicity of the solution. All infusions, of whatever nature, should have the same osmotic tension as the blood and tissue fluids. By actual experiment and by theoretical calculation it has been found that a five per cent. solution of glucose in water is practically physiologically normal.[1] To make such a solution is a very simple matter. It is only necessary to place fifty grams of glucose, using, if desired, any of the various sterile hermetically sealed ampules now on the market, into a sterile flask and to add sterile redistilled water to make a thousand cubic centimeters. One liter is the unit of administration.

The least troublesome way to introduce the solution, which is also the simplest and most nearly fool-proof way, is by hypodermoclysis into the loose tissues of the axillary regions. This method is harmless and often entirely painless, and the rate of administration is automatically regulated by the speed with which the tissues absorb the solution. By this method we have never obtained a reaction, and have never produced a slough at the site of injection.

In emergencies glucose can be given by venoclysis. The rate of administration should be less than two drops per second. Too rapid a rate may cause a reaction, or a hyperglycemia followed by a renal glycosuria with loss of large quantities of the solution just introduced. There may also result a pancreatic stimulation to overproduction of insulin with subsequent hypoglycemia.

Glucose should never be given in the form of an enema or as a rectal drip. Sugar by rectum is of little or no practical nutritional value.[2] It has been shown by experiments on dogs and on humans that the colon does not absorb glucose to any appreciable extent and that it may even hinder the absorption of other substances.[3]

This paper can be summarized in three sentences as follows: 1. The administration of glucose solution is a normal physiological method of supplying the body tissues with water, energy and food. 2. Glucose solution is indicated both preoperatively and postoperatively in all conditions in which the tissues require water, energy and food. 3. Glucose is best administered in five per cent. aqueous solution of hypodermoclysis.

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Society Proceedings

CENTRAL ILLINOIS MEDICAL SOCIETY

The Fifty-Sixth Annual Convention of the Central Illinois Medical Society was held in Pana on Tuesday, April 26.

More than fifty members of the Society from Central Illinois and Southern Illinois counties attended the sessions.

Clinics were held at the Huber Memorial Hospital as follows:

Surgical Clinic—Dr. F. E. Smith.

Chest Clinic—Dr. D. O. Lindberg.

Discussion of "Urologic Roentgenography"—Dr. H. J. Burstein.

At the afternoon session at the New Frances Hotel, following the luncheon wihch was served at the noon hour at the hotel, Dr. F. Flinn gave a lecture on "X-Ray Finding in Pneumoconosis," while Dr. Dean Stanley gave a paper on "Diagnosis and Treatment of Coronary Thrombosis." Dr. A. A. Mertz gave a paper on "Parathyroidism with Parathyroidectomy."

Annual election of officers was held at the business meeting.

The new officers are as follows: President, Dr. F. Buckmaster, Effingham; vice-president, Dr. Ben Miller, Palmer; secretary-treasurer, Dr. F. A. Martin, Pana;

censors, Dr. Ciney Rich, Decatur; Dr. Walter Burgess, Pana; Dr. H. E. Monroe, Shelbyville.

LIVINGSTON COUNTY

The March meeting of the Livingston County Medical Society was held March 20 at Pontiac, Ill., at which time Dr. Hills of Chicago was scheduled as speaker of the evening, but finding shortly before the meeting that he would be unable to fill the engagement, Dr. Holbrook, urologist, and Dr. Malcolm, obstetrician, both of Peoria, gave very beneficial discussions on their separate specialties. Following Dr. Holbrook's talk, Dr. E. P. Sloan of Bloomington gave the subject considerable discussion.

Dr. Eva M. Wilson, medical director of the ladies reformatory of Dwight, Ill., gave a discussion of medical equipment and conditions of the reformatory.

A number of guests from various counties were present. A very beneficial and enjoyable evening was spent.

H. L. Parkhill,
Secretary, L. C. M. S.

PIKE COUNTY

The Pike County Medical Society met in Pittsfield, April 28. A sumptuous turkey dinner was served at the Mary Ann Cafe. The program was given at the Lions Club. The first number on the program was a very complete, comprehensive and scientific paper on "Infant Feeding," by Dr. J. H. Rutledge of Nebo. This paper was very well received and was discussed by several of those present, but principally by Dr. Geo. Drennan of Jacksonville.

The second number was a paper on "The Medical Treatment of Gastric Ulcer" and was given by Dr. A. G. Hofferman of Springfield. This paper was complete in all phases of the subject; diagnosis, diet, treatment, complications, prognosis; especially dwelling upon rest, diet, proper medication, maintaining that a very large part of all cases may be cured by such measures. Also, he called attention to the many apparently cured cases that recur after a period of several years.

The third paper, "The Surgical Treatment of Gastric Ulcer," was given by Dr. H. H. Tuttle of Springfield. He gave the latest, the best and most conservative ideas on this subject in a most impressive manner, going into all phases of the subject and its complications in an exhaustive way.

The two papers on gastric ulcer were discussed by several, but principally by Dr. Carl E. Black of Jacksonville and Dr. Chas. D. Center of Quincy. Some interesting cases were cited, and especial weight placed upon the importance of using every possible means in evaluating the patient as a surgical risk.

The annual election resulted in the choice of Dr. J. H. Rutledge of Nebo as president, Dr. J. E. Goodman of Pleasant Hill as vice-president, and Dr. F. N. Wells of Pittsfield as secretary-treasurer. Dr. S. B. Peacock of Pittsfield was elected delegate to the State meeting, and Dr. W. W. Kuntz of Barry, alternate.

The secretary was instructed to report the necessary steps to be taken to change the date of the annual election to January. The usual resolutions thanking those who gave the program, and the hosts of the day, were passed, and invitation to meet in Nebo in July was accepted.

F. N. Wells, Secretary.

Personals

Dr. Edward S. Murphy, Dixon, was elected president of the Illinois Tuberculosis Association at its recent annual meeting in Danville.

Dr. Sidney J. Silbar, Milwaukee, addressed the Chicago Urological Society, May 25, on "Pain as a Diagnostic and Prognostic Symptom in Gonorrhea."

Dr. Ben Z. Rappaport, Chicago, addressed the Peoria City Medical Society, May 3, on "Diagnosis and Treatment of the Common Allergic Conditions."

Dr. William T. Coughlin, St. Louis, discussed "Brain Tumors That Are Overlooked" before the St. Clair County Medical Society in East St. Louis, May 5.

At a recent meeting of the Chicago Society of Allergy, Dr. Leon Unger was made president, and Dr. Meyer R. Lichtenstein, secretary. Dr. Isadore Pilot is vice-president.

Dr. J. C. Westervelt, Shelbyville, recently completed fifty-four years in the practice of medicine; Dr. Westervelt has served also as mayor of the city for several terms.

At the meeting of the Chicago Pediatric Society, May 17, the speakers included Drs. Charles A. Aldrich, Winnetka, on "An Anomaly of the Brain," and Bert I. Beverly on "Congenital Atresia of the Duodenum."

A symposium on Perthes' disease was conducted before the Chicago Roentgen Society, May 11. The participants included Drs. Dallas B. Phemister, Robert C. Lonergan, Marcus H. Hobart and Gentz Perry.

A symposium on nephritis constituted the program of the Adams County Medical Society, Quincy, May 9; the speakers were Drs. Richard A. Harris, Walter M. Whitaker and Seldon R. Hoover, Jr., all of Quincy.

The Chicago Council of Medical Women will be addressed, June 3, by Drs. Katharine M. Howell on "Vaccine Therapy in Arthritis," and Ernestine V. Kandel, "Blood Findings and Therapy in the Anemias."

Dr. Norman W. Roome addressed the Chicago Surgical Society, May 6, among others, on "Effect of Hemorrhage on Lowered Blood Pressure," and Drs. Victor L. Schrager and Earl O. Latimer, "Carcinoma of the Bile Duct."

The portrait of Dr. John R. Neal, president of Illinois State Medical Society, 1932-1933, appears in this issue of the Journal as a supplement.

Dr. Morris Fishbein lectured at the University of Illinois College of Medicine, under the auspices of the Research Club and Π K E Honorary Fraternity, on "Foods, Fads and Follies," on Wednesday, May 18.

News Notes

—The new officers of the Chicago Tuberculosis Society for 1932-1933 are as follows: President, Minas Joannides, M. D.; vice-president, Ellis B. Freilich, M. D.; secretary-treasurer, O. C. Schlack, M. D. Trustees, Samuel A. Levinson, M. D., Robert S. Berghoff, M. D., and Jerome R. Head, M. D. Publicity committee, Edward P. Troy, M. D., Robert H. Hayes, M. D., and Julius Novak, M. D.

—The annual meeting of the Sigma Xi Chapter of the College of Medicine, University of Illinios, was held May 12. Fifteen members were elected, and twenty-two associate members.

Dr. F. R. Moulton, past president of the National Convention, and Dr. L. B. Wilson, national president, gave addresses. Northwestern Chapter was represented by Dr. L. B. Arey, professor of anatomy, and president of the chapter. Professor E. S. Bastin represented the University of Chicago Chapter.

The scientific program was:

"New Studies on the Thyroid Gland," Dr. G. Zechel.

"The Histogenesis of the Valvular Lesions in Endocarditis Lenta (Subacute Bacterial Endocarditis), Dr. R. H. Jaffe.

Each year the Sigma Xi presents a prize to the student doing the most important research during the year. This competition is confined to undergraduates. The prize this year was awarded to Mr. Edgar A. Thacker, subject "A Study of the Physiological Action of Irradiated Ergosterol."

The University of Illinois College of Medicine is unique in that it is the only independent chapter connected with a medical college. The only similar organzation is at the Mayo Institute. The University of Illinois and the University of Minnesota are the only universities each having two distinct chapters.

The officers elected for the coming year are: Charles S. Williamson, president; W. J. R. Camp, vice-president; Isadore Pilot, treasurer, and William H. Welker, secretary.

—The tumor clinic of the Michael Reese Hospital has acquired 4.5 Gm. of radium, of which 4 Gm. will be used in the form of a radium "bomb."

—The state department of registration and education revoked the license of Amante Rongetti, May 4, on the ground of his conviction of manslaughter.

—The Chicago Medical Society offered its services to the schools of the city during Youth Week, May 9-14, in order that as many children as possible receive physical examinations during that period.

—The Chicago Gynecological Society was addressed, May 20, among others, by Dr. George F. Hibbert on "Significance of the Streptococcus in Trichomonas Vaginalis Vaginitis."

—The Chicago Society of Internal Medicine was addressed, May 23, among others, by Drs. Chauncey C. Maher on "Effects of Intravenous Quinidine Sulphate on the Fibrillating Auricle," and Harry A. Singer, "Valvular Pneumoperitoneum."

—Alumni of Rush Medical College will hold their annual reunion, beginning June 9 and continuing through June 15. Clinics will be held on June 13 at Rush Medical College and on June 14 at Billings Hospital. On June 13 the classes of 1882 and 1912 will meet at special banquets.

—The Henry County Medical Society was addressed at Kewanee, May 5, by Drs. William Thalhimer and Carl A. Hedblom, Chicago, on "Diagnosis of Poliomyelitis in the Preparalytic Stage, and the Therapeutic Use of Convalescent Poliomyelitis Serum" and "Differential Diagnosis and Treatment of Acute Abdominal Lesions."

—The Chicago Pathological Society was addressed, May 9, by Drs. Hugh A. McKinley and Arthur Weil on "Tumors of the Hypophysis

Associated with Internal Hydrocephalus"; Dr. Isadore Pilot, "Lymphogranuloma Inguinale"; Cornelius S. Hagerty and Dr. Willis Stanley Gibson, "Carcinoma of the Stomach in a Child Three Years of Age," and Drs. Eugene C. Piette, Oak Park, and Eugene F. Traut, "Pontile Hemorrhage in a Young Woman."

—The seventh annual postgraduate clinics by the attending staff of Cook County Hospital will be held under the auspices of the Chicago Medical Society, June 6-18. The object of the clinics is to furnish information which will aid the practicing physician in the diagnosis and treatment of the more important medical and surgical diseases. Special emphasis will be given to diagnosis, operative technic, pathology and the recent advances in medicine and surgery. The clinics will be divided into two main groups —medical, including the medical specialties, and surgical, including the surgical specialties. They will be held simultaneously throughout the day in two large amphitheaters. Special demonstrations in obstetrics and gynecology will be arranged. A fee of $10 is charged to cover the expense of organization.

—The Tri-City Medical Society held their annual meeting last night in La Salle. The following officers were elected: President, Dr. J. F. Lewis; vice-president, Dr. Jos. Terrando, and secretary, Dr. F. J. Maciejewski. The society adopted resolutions of regret in the death of Dr. A. H. Hattan of Peru.

—In January, 1931, following the death of Mr. Albert B. Kuppenheimer, it was announced that he had bequeathed $1,000,000 to the University of Chicago for research and study in the field of venereal diseases. At a recent meeting of the board of trustees of the University of Chicago, the Albert B. Kuppenheimer Foundation was established and a committee was appointed to allocate the funds. This committee is composed of Drs. Joseph L. Miller, clinical professor of medicine; Oliver S. Ormsby, clinical professor of dermatology, Rush Medical College; Samuel W. Becker, associate professor of dermatology; Oswald H. Robertson, professor of medicine and acting chairman, department of medicine; Dallas B. Phemister, professor of surgery and chairman of the department of surgery; Fred L. Adair, professor of obstetrics and gynecology; Franklin C. McLean, director, University of Chicago Clinics, and Frank R. Lillie, Sc.D., dean, Division of Biological Sciences. The bequest, which has suffered considerable shrinkage since the original announcement, has been turned over to the university. In accordance with the terms of the bequest, the income is to be expended wholly within the University of Chicago, of which Rush Medical College is a part.

—The program for the May meeting of the Chicago Society of Allergy was as follows:

"Rabbit Skin Tests with Pollen Extracts."—H. W. Cromwell & Marjorie D. Moore (by invitation).

"Classification and Identification of Hay Fever Pollens."—O. C. Durham (by invitation).

—Women's auxiliary to the Rock Island County Medical society elected the following officers at the last meeting of the season last night at the LeClaire hotel: President, Mrs. W. D. Chapman, Silvis; vice-president, Mrs. F. E. Bollaert, East Moline; secretary, Mrs. H. P. Miller, Rock Island; treasurer, Mrs. H. A. Beam, Moline.

Deaths

Henry Ernest Beck, Moline, Ill.; National Medical University, Chicago, 1906; member of Illinois State Medical Society; aged 62; died, May 16 from injuries received in an automobile accident, May 4.

Peter Thomas Burns, Chicago; Northwestern University Medical School, Chicago, 1891; a Fellow A. M. A.; for many years assistant professor of anatomy at his alma mater; aged 67; died, May 10, of myocarditis.

Ezra Dwight Chase, Chicago; Northwestern University Medical School, 1905; a member of Illinois State Medical Society, on staff of Garfield Park Hospital; aged 50; died, May 2, of chronic myocarditis.

John Harvey Copenhaver, Bellflower, Ill.; University of Illinois College of Medicine, 1903; a member of Illinois State Medical Society; aged 55; died, April 26, of carcinoma of the intestines.

George E. Dienst, Aurora, Ill.; National Medical College, Chicago, 1898; aged 74; died, April 10, of senility.

John William Dobson, Moweaqua, Ill.; University of Michigan Medical School, Ann Arbor, 1892; aged 67; died, April 15, of coronary thrombosis.

Wesley Wilson Duncan, Sorento, Ill.; American Medical College, St. Louis, 1878; Civil War veteran; aged 91; died, April 12, of acute bronchitis.

Henry Ehrhardt, Beardstown, Ill.; Missouri Medical College, 1877; aged 79; died, May 12, of chronic myocarditis.

Clarence Ray Essex, Galesburg, Ill.; St. Louis

College of Physicians and Surgeons, 1905; member of the Illinois State Medical Society; aged 50; on the staff of St. Mary's Hospital, where he died, April 22, of coronary occlusion.

Edward Albert Foley, Dunning, Ill.; Northwestern University Medical School, 1886; assistant manager of Chicago State Hospital and member of Illinois State Medical Society; died, May 17, of myocarditis.

William H. Frazer, Taylorville, Ill.; St. Louis College of Physicians and Surgeons, 1894; member of Illinois State Medical Society; aged 72; died, May 6, of arteriosclerosis and cerebral hemorrhage.

Mary D. Gibbons, Oak Park, Ill.; Hahnemann Medical College and Hospital, Chicago, 1888; aged 81; died, April 21, of coronary sclerosis and nephrolithiasis.

Elon B. Gilbert, Geneseo, Ill.; Jefferson Medical College of Philadelphia, 1885; a Fellow, A. M. A.; formerly president of the board of health of Geneseo; on the staff of the J. C. Hammond City Hospital; aged 72; died in April.

Nicholas John Hamilton, Moline, Ill.; College of Medicine and Surgery, Chicago, 1886; aged 80; died, May 4, of myocarditis, in the city hospital.

Samuel N. Harvey, Chicago; Bellevue Hospital Medical College, 1875; a member of Illinois State Medical Society and staff member of Illinois Central Hospital; aged 79; died, May 20, in that hospital, of carcinoma of the pancreas.

Albert H. Hattan, Peru, Ill.; American Medical College, St. Louis, 1877; Chicago Homeopathic Medical College, 1893; aged 74; died, April 26, in Cadiz, Ohio, of heart disease and arteriosclerosis.

Marion Hendrickson, Johnston City, Ill.; St. Louis College of Physicians and Surgeons, 1897; aged 62; died suddenly, April 25, of myocarditis.

James Ralph Higgins, Gillespie, Ill.; St. Louis University School of Medicine, 1913; a Fellow, A. M. A.; served during the World War; aged 45; died, April 18, at the St. Francis Hospital, Litchfield, of heart disease.

William Daniel Hohmann, Kewanee, Ill.; Baltimore Medical College, 1890; member of Illinois State Medical Society and former president of Henry County Medical Society and chief of staff of St. Francis Hospital; aged 64; died, May 8, of pulmonary tuberculosis.

Moses A. Karol, Decatur, Ill.; Loyola University School of Medicine, 1819; surgeon in charge of Wabash Employees Hospital and on staffs of Decatur and Macon County and St. Mary's Hospitals; aged 39 years; died, April 24, at Frances Willard Hospital, Chicago, of lobar pneumonia.

John William Landgraf, Seneca, Ill.; Northwestern University Medical School, Chicago, 1909; a Fellow, A. M. A.; aged 45; died, April 18, in the Ryburn-King Hospital, Ottawa, of injuries received when his car, which he was having greased, overturned on him from a hydraulic lift.

James McIlwain, Okawville, Ill.; University of the City of New York Medical Department, 1868; member of the Illinois State Medical Society; aged 88; died, April 20, of influenza and arteriosclerosis.

Arno Meyer, Chicago; College of Medicine and Surgery (Physio-Medical), Chicago, 1910; a Fellow, A. M. A.; formerly a druggist; aged 53; died, April 2, of valvular heart disease.

Samuel Ross Miller, Bismarck, Ill.; Rush Medical College, Chicago, 1878; aged 82; died, March 20, in La Fera, Texas, of senility.

Seth Thomas Morrill, Martinsville, Ill.; Rush Medical College, Chicago, 1887; aged 72; died, December 30, 1931.

John Niess, Carmi, Ill.; St. Louis University School of Medicine, 1907; a member of Illinois State Medical Society; aged 52; died from the effects of lysol self administered at the home of his sister in Belleville, May 14.

Charlotte Alden Nortell, Oak Park, Ill.; University of Illinois College of Medicine, 1906; aged 52; died, May 18, of myocarditis.

John William O'Shea, Chicago; Chicago College of Medicine and Surgery, 1915; served during the World War; on the staff of the Hospital of St. Anthony de Padua; aged 48; died, April 3, of encephalitis.

John C. Owens, Plainfield, Ill.; Syracuse University College of Medicine, 1881; aged 75; died, April 2, in Detroit, of diabetes mellitus and myocarditis.

William J. J. Paris, Rosiclare, Ill.; University of Tennessee Medical Department, Nashville, 1882; member of the Illinois State Medical Society; aged 78; died, March 21, of pneumonia.

John Emery Reed, Benton, Ill.; Missouri College of Medicine and Science, St. Louis, 1910; a member of Illinois State Medical Society; past president of Franklin County Medical Society; president-elect of Southern Illinois Medical Society; a veteran of the World War; aged 52; died, April 25, of coronary occlusion.

Edward E. Reininger, Oak Park, Ill.; Chicago Homeopathic Medical College, 1888; for many years on the staff of the Cook County Hospital, Chicago; aged 76; died, April 10, of carcinoma of the left side of the pharynx and rima glottidis.

Everett Douglas Rodgers, Chicago; Miami Medical College, Cincinnati, 1884; aged 71; died, April 16, of chronic myocarditis.

John A. Stevenson, Chicago; Queen's University Faculty of Medicine, Kingston, Ont., Canada, 1894; aged 61; died, April 4, of intestinal obstruction and thrombosis.

William Bard Wakefield, Peoria, Ill.; University of Illinois College of Medicine, 1907; a member of Illinois State Medical Society; aged 47; died, May 11, of general arteriosclerosis.

Thomas Andrew Wallace, Clayton, Ill.; National Medical University, Chicago, 1899; aged 71; died, May 1.

Edward Newby Wheeler, Decatur, Ill.; Rush Medical College, Chicago, 1878; Civil War veteran; aged 86; died, March 10, in St. Mary's Hospital, of pneumonia.

Harry O. Wiseman, Chicago; Chicago College of Medicine and Survey, 1917; aged 37; died, April 1, of chronic myocarditis and nephritis.

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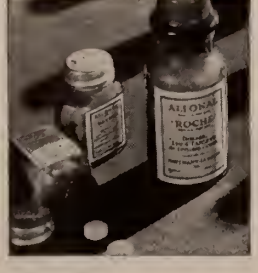
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Founded in 1890

CHICAGO PASTEUR INSTITUTE

For the preventive Treatment of Hydrophobia

812 North Dearborn Street
CHICAGO, ILLINOIS

We can supply physicians in the State of Illinois, desirous to treat their cases, with our specially prepared modified virus (Fermi-Lagorio) which has proven most effective in all cases. No failures or any untoward symptoms reported.

Courses of 15, 18 or 21 days' duration in vials with syringe, needles and instructions.

A. Lagorio, M.D., LL.D.
Medical Director

Frank A. Lagorio, M.D.
Assoc. Med. Director

Telephone Superior 0973

★ ★ ★ HERE

is one of the advertisements of The Sugar Institute

THE advertisement reproduced here is one of the series appearing in publications throughout the country. In order to keep the statements in accord with modern medical practice, they have been submitted to and approved by some of the leading authorities in the field of human nutrition in the United States. The Sugar Institute, 129 Front Street, New York.

SCHOOL CHILDREN'S appetites ARE fickle



...OFTEN DUE, HOWEVER, TO TASTELESS OR UNINVITING DIET

THOSE in charge of school luncheons are often confronted with the problem of getting children to eat what is good for them.

The lack of taste-appeal in the food served is often the reason that food is rejected or "picked at." Cooked tomatoes may be too tart, the stewed fruit insipid, the spinach and the carrots bland.

By flavoring or seasoning these essential foods with sugar they will be much improved in flavor. A dash of sugar to a pinch of salt is a good rule to follow in seasoning string beans, carrots, peas, tomatoes, soups and meat and vegetable stews. Fresh and cooked fruits should be sweetened to taste.

Doctors and diet authorities approve this use of sugar because it makes those foods which are carriers of vitamins, minerals and roughage, more enjoyable to the child. Flavor and season with sugar. The Sugar Institute, 129 Front Street, New York City.

"Flavor and season with Sugar"

★ ★



An Antitoxic Food Which Changes the Flora

PROVIDE the right kind of "soil" and you encourage the growth of the right kind of bacteria.

Where there is an existing putrefaction, the obvious method of changing the flora is to change the dietary habits of the patient and supply those foods upon which the normal B. acidophilus is known to thrive.

Based on the work of Torrey, Kendall, Rettger, Cannon, the two most desirable foods for the purpose were found to be the carbohydrates — lactose and dextrine — first prepared by us to meet physical requirements, under the name

LACTO-DEXTRIN

(Lactose 73% — dextrine 25%)

Lacto-Dextrin offers a drugless, natural way of suppressing putrefaction and intestinal poisons by changing the flora.

Let us send you a physician's sample of Lacto-Dextrin with our compliments.

MAIL COUPON TODAY

THE BATTLE CREEK FOOD COMPANY
Dept. IMJ-1-32, Battle Creek, Michigan
Send me, without obligation, literature and trial tin of Lacto-Dextrin.

Name .....

Address .....

.....

WHETHER THE PATIENT IS

aged  and feeble  or so young  that his digestive system works less energetically than his limbs  or is an adult business man  healthy but deskbound  – prescribe AGAROL with confidence for the relief of constipation and to aid in restoring regular bowel function.

AGAROL is the original mineral oil and agar-agar emulsion with phenolphthalein. It softens the intestinal contents and gently stimulates peristalsis.

Gentle enough for little patients; active enough for the chronic state of the adult and aged patient.

A supply gladly sent for trial.

AGAROL *for Constipation*

WILLIAM R. WARNER & COMPANY, Inc. 113 West 18th Street, New York City

"If one wishes to fortify cod liver oil, it is far more reasonable and efficacious to increase its potency by adding a small amount of viosterol, which is a specific in the prevention and cure of rickets, as it brings about calcification not only of the bone but of the proliferating cartilage as well." (*Hess, Alfred F.*, Am. J. Dis. Child. 41:1081; May, 1931.)

MEAD'S 10 D Cod Liver Oil with Viosterol is the choice of many discriminating physicians because it represents the long pioneer experience of Mead Johnson & Company in the fields of *both* cod liver oil *and* viosterol.

Mead's 10 D Cod Liver Oil is the only brand that combines *all* of the following features:

1. Council-accepted. 2. Made of Newfoundland oil (reported by Profs. Drummond and Hilditch to be higher in vitamins A and D than Norwegian, Scottish and Icelandic oils). 3. Supplied in brown bottles and light-proof cartons (these authorities have also demonstrated that vitamin A deteriorates rapidly when stored in white bottles).

In addition, Mead's 10 D Cod Liver Oil is ethically marketed without public advertising or dosage directions or clinical information. With Mead's,—*you* control the progress of the case.

Mead's 10 D Cod Liver Oil is therefore worthy of your personal and unfailing specification. This product is supplied in 3-oz. and 16-oz. brown bottles and light-proof cartons. The patient appreciates the economy of the large size.

Mead Johnson & Company Pioneers in Vitamin Research **Evansville, Indiana, U.S.A.**



"Because they do give relief—"

"—*Quickly and safely*" added the doctor who voiced his reasons for using Anusol Suppositories in the treatment of hemorrhoids and other rectal diseases.

That's just what Anusol Suppositories do—they relieve pain *quickly*, reduce inflammation and congestion, and check bleeding with equal promptness. And they accomplish their purpose *safely*, because no narcotic, anesthetic or analgesic drug enters into their composition to give a false sense of improvement by masking the symptoms. And they never fail.

TRIAL PACKAGE ON REQUEST

SCHERING & GLATZ, Inc., 113 West 18th Street, New York City



THEY ARE PACKAGED IN BOTTLES OF THIRTY FIVE, A CONVENIENT NUMBER FOR THE PHYSICIAN'S PRESCRIPTION, OBVIATING REHANDLING AND EXPOSURE

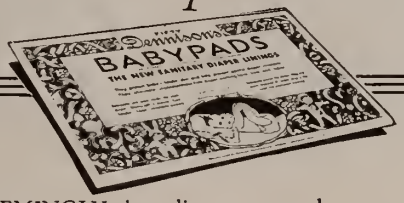
THE FINISHED PILLS ARE PHYSIOLOGICALLY ASSAYED TO FINALLY CERTIFY THEIR STANDARDIZATION

THE POWDERED LEAF IS TESTED PHYSIOLOGICALLY AND CONVERTED INTO PILL FORM (1½ GRAINS) ON AN AUTOMATIC MACHINE, REDUCING EXPOSURE TO THE MINIMUM

A CAREFULLY SELECTED, BOTANICALLY IDENTIFIED LEAF, POWDERED IN OUR OWN MILL, GIVING ASSURANCE OF RELIABILITY···

THE FOUNDATION UPON WHICH THEY ARE BUILT
AT THE LABORATORIES OF
DAVIES, ROSE & CO., LTD.
BOSTON, MASS.

This NEW *sanitary product* helps protect Babies from *Diaper Irritations*



SEEMINGLY clean diapers, as you know, are frequently the cause of one of the most common types of infant skin-irritation—diaper rash. For even after repeated rinsings, diapers may retain impurities (soap alkalies, uric acid) which may cause painful irritation.

Now babies can have sanitary protection against this common danger through the use of the new disposable diaper-linings known as Babypads.

WHAT BABYPADS ARE: Babypads are made, under hygienic conditions, of a single layer of a newly developed, highly purified cellulose. Downy-soft, light in weight, they are surprisingly strong when wet or dry.

RIGHT IN SIZE AND SHAPE: Babypads are designed in shape and size for use with either the square or triangular fold. They stay in place securely and do not bulk between the legs.

SAVE UNPLEASANT DIAPER WASHING: When soiled, Babypads are removed from the cloth diaper, dropped in the toilet and flushed away. The diaper is left clean enough so that it may be washed without unpleasantness. Mothers and nurses are glad to know about Babypads because of the comfort they afford baby and the time and labor saved in diaper care.

SURPRISINGLY INEXPENSIVE: Babypads cost so little that every mother can use a fresh one every time the diaper is changed. They are on sale at department, dry goods, and drug stores: 50 for 25¢ or 250 (a month's supply) for $1. (The hospital size package of 1000 costs $2.50.)

FULL-SIZE PACKAGE FREE: Send for a full-size package of 50 Babypads, with some suggested simple tests of their practical value. Just mail the coupon.

Dennison's
BABYPADS
Registered U. S. Patent Office—Patents Pending
THE NEW SANITARY DIAPER LININGS

DENNISON MANUFACTURING CO., BOX N-193
Framingham, Mass.
Please send me, without charge, a package of 50 Babypads

Name

Address

City State



TRADE MARK

PHENYLAZO-ALPHA-ALPHA-PYRIDINE-MONO-HYDROCHLORIDE (MANUFACTURED BY THE PYRIDIUM CORPORATION)

FOR GONORRHEA

The oral administration of Pyridium in tablet form affords a quick and convenient method of obtaining bactericidal action when treating Gonorrhea and other chronic or acute genito-urinary infections... Pyridium penetrates quickly through denuded surfaces and mucous membranes and is rapidly eliminated through the urinary tract. It is non-toxic and non-irritating in therapeutic doses... Pyridium is available in four convenient forms, as tablets, powder, solution or ointment.

WRITE FOR LITERATURE

"COUNCIL ACCEPTED" B-6-D-5

MERCK & CO. INC.
MANUFACTURING CHEMISTS
RAHWAY, N. J.

DYSMENORRHEA

The disturbed internal secretion mechanism controlling menstruation responds to those endocrine principles which are specifically elaborated in the body for this purpose. A physiologically active combination of internal secretions simulating that produced in the body is contained in

HORMOTONE

Bottles of 50 and 100 tablets

G. W. CARNRICK CO.
Dependable Gland Products
20 Mt. Pleasant Ave. Newark, N. J.


THE usefulness of Lilly Ephedrine Products justifies the tradition that has come down through the ages following the recognition of the drug Ma Huang more than fifty centuries ago by Emperor Shen Nung, reputed author of the Pentsao, or Chinese dispensatory.
Nagai isolated pure Ephedrine in 1887. Chen and Schmidt investigated its epinephrine-like effects in 1923. Scientific study of the chemistry and applicable forms by Eli Lilly and Company followed, resulting in a list of Ephedrine preparations of purity, refinement, concentration, and therapeutic activity.
From a painting of Nankow Pass
INHALANT No. 20 EPHEDRINE COMPOUND
Lilly
INHALANT No. 21 EPHEDRINE (PLAIN)
Lilly
LILLY
PROGRESS THROUGH RESEARCH


HOW baffling must have been the diseases of the sixteenth century, in that dark interval separating alchemy and chemistry! There was no science of internal medicine—there was little physiological knowledge. Harvey's work on the circulation of the blood marked an important advance; yet more than two centuries passed before Addison described "idiopathic anemia." In less than another hundred years Minot and Murphy demonstrated the value of liver in pernicious anemia and their studies led to the large-scale production of a potent, uniform, clinically tested specific—Liver Extract No. 343, Lilly.
From an old Dutch painting, "The Doctor's Visit"
24 VIALS
LIVER EXTRACT
No. 343
PROTECT FROM
PROGRESS THROUGH RESEARCH

A RESPONSIBILITY



. . . which we value highly

For 20 years we have manufactured exclusively for the medical profession, and during this time our business on Taurocol has steadily grown. Taurocol has an ENVIABLE REPUTATION among practicing physicians because of the DEPENDABLE RESULTS they obtain.

Taurocol is a combination of bile salts, cascara sagrada, phenolphthalein and aromatics. It has been used for many years to promote biliary flow and relieve constipation.

TAUROCOL

(TOROCOL) TABLETS

Samples and full information on request.

THE PAUL PLESSNER CO., Detroit, Mich.

VERA PERLES
of Sandal-wood Compound — for inflammation of mucous membranes—another Plessner product

LIQUID PEPTONOIDS WITH CREOSOTE

COMBINES the active and known therapeutic qualities of creosote and guaiacol with the nutritive properties of Liquid Peptonoids and is accordingly a thoroughly dependable product of definite quantities and recognized qualities as shown by the formula:

Each tablespoonful represents

ALCOHOL (By Volume)	12%
PURE BEECHWOOD CREOSOTE	2 min.
GUAIACOL	1 min.
PROTEINS (Peptones and Propeptones)	5.25%
LACTOSE AND DEXTROSE	11.3%
CANE SUGAR	2.5%
MINERAL CONSTITUENTS (Ash)	0.95%

It acts as a bronchial sedative and expectorant, exhibiting a peculiar ability to relieve *Bronchitis—acute or chronic.* It checks as well a persistent winter cough and without harsh or untoward effect. It is agreeable to the palate and acceptable to the stomach—with merit as an intestinal antiseptic.

Samples on request

THE ARLINGTON CHEMICAL COMPANY

YONKERS, NEW YORK

ARTHRITIS

"....one of the most important advances toward the alleviation of the pain and crippling action of hypertrophic arthritis that has yet been made."

The words aren't ours, but the written opinion of a prominent clinician. They refer to the use of Farastan (Mono - Iodo - Cinchophen Compound) which this doctor classifies as "an extremely valuable drug."

The systemic as well as symptomatic value reported, we believe, is due to the unique form in which the Iodine is incorporated in the chemical structure. Due to its chemical characteristics it is less likely to cause side reactions.

Let us send you literature and a full size package of Farastan so that you can confirm these findings in your own practice.

The Laboratories of

THE FARASTAN COMPANY

134 So. 11th St. Philadelphia, Pa.



GASTRIC FABLES

The sad but INTERESTING *Case of Mme. de Sable*



The Marquise de Sable loved good things, was something of a gourmande, and enjoyed a reputation as a "veritable gastronomic authority." La Rochefoucauld praised highly her potage with carrots, capon stuffed with prunes, and rated her truffles above his own "Maximes."

But Madame de Sable suffered from the venerable disease of hypochondria. Her morbid anxiety to safeguard her health, which finally became the ruling passion of her life, began innocently enough in a healthy appetite. But careful as the Marquise was to avoid disease, she let her appetite rule and her stomach suffer.

The ideas of Madame de Sable have found many imitators since the 17th century. The gastric neurasthenic is with us and his phobias with him. There is nothing better for his overworked stomach than CAL-BIS-MA because it neutralizes gastric hyperacidity quickly, soothes the irritated mucous membrance, and relieves the discomfort of gas formation.



Cal-Bis-Ma is a combination of calcium and magnesium carbonates, sodium bicarbonate, bismuth and colloidal kaolin, blended into a palatable powder... We will gladly explain the therapeutic merits of Cal-Bis-Ma and send a professional trial package for the asking. . . Send for it.

IN GASTRIC HYPERACIDITY—**CAL-BIS-MA**

WILLIAM R. WARNER & CO., Inc., 113 WEST 18th STREET, NEW YORK CITY

Amytal for Insomnia

Insomnia due to hypertension, various psychoses, drug addiction, alcoholism, hyperthyroidism, and restlessness due to various causes indicates the use of Tablets Amytal. In conditions where tranquillity and repose are desired Tablets Amytal (iso-amyl ethyl barbituric acid) may be prescribed in doses of 1½ to 3 grains. For sedation in ambulatory cases prescribe Tablets Amytal, Half-Strength, ¾ grain.

Eli Lilly and Company

INDIANAPOLIS, U.S.A.



Write for Pamphlet

A New Treatment for Old Ailments

YEARS ago, the alkaline antacids were accepted as the logical medical treatment for peptic ulcers, heartburn, hyperacidity and allied disorders. Sodium bicarbonate, magnesium oxide and magnesium carbonate were commonly prescribed in such conditions because they brought the best results of any chemicals used up to that time.

But medical science changes rapidly. Hardly a year passes but what some important discovery revolutionizes the thinking of the medical profession. The new is constantly replacing the old.

Sometimes, perhaps, medical men seem slow to grasp the new, but that is simply because they want to be sure of their ground. They must be convinced by facts of the superiority of one treatment over another before making a change, which of course, is as it should be. Once convinced, however, they waste no time in making the switch.

Internists, today, are rapidly switching from the old method (alkaline antacids) in treating peptic ulcers, heartburn, hyperacidity and the like to the new method (neutral antacids, as represented by granular effervescent TRI-CALSATE) because of these facts:

1 TRI-CALSATE, the neutral gastric antacid, neutralizes the excess HCL of the gastric content but does not produce an alkaline condition. The alkaline antacids, on the other hand, tend to produce alkalosis and lower the plasma chlorides.

2 TRI-CALSATE, the neutral gastric antacid, does not irritate the bowel or kidney. Alkaline antacids, on the contrary, are irritating to the urinary and gastro-intestinal tracts.

3 TRI-CALSATE, the neutral gastric antacid, guards against the possibility of an alkalosis, for the end products and excess tribasic calcium phosphate are excreted thru the intestines and not by the kidneys. Alkaline antacids, however, are likely to produce alkalemia, for the end products are excreted by the kidneys.

4 TRI-CALSATE, the neutral gastric antacid, offers positive relief by neutralizing the excess HCL of the gastric content without stimulating gastric secretion. Alkaline antacids, however, afford but temporary relief, for after the process of neutralization has taken place a decided increase in acid secretion always follows.

In view of these facts, is it any wonder that TRI-CALSATE is being prescribed more and more by forward looking medical men?

Granular Effervescent TRI-CALSATE

the neutral gastric antacid

TRI-CALSATE is available on Rx or direct in bottles containing 2oz., 4 oz., and 1lb. bulk.

TRI-CALSATE supplies the four essential factors in the medical treatment of peptic ulcers: 1. Palatability. 2. Efficiency. 3. Safety. 4. Economy. In aqueous suspension, it consists essentially of tribasic calcium phosphate and sodium citrate.

TRI-CALSATE is sold exclusively thru the medical profession and is remarkably free from counter prescribing and lay use.

Write for samples and literature

F. H. PAXTON & SONS, Inc., Mfg. Pharmaceutical Chemists

451 E. Ohio St., Chicago, Ill.

Makers also of granular effervescent CAKNAM, the true systemic Alkalizer

3

reasons for prescribing



ANTIPHLOGISTINE

in

Pneumonia

1. ***Analgesic:*** It relieves pleuritic pain;
2. ***Resolvent:*** It favors resolution;
3. ***Relaxant:*** It relaxes the muscular and nervous systems, thus ensuring ease and comfort to the patient.

Applied as a jacket over the entire thoracic wall, Antiphlogistine will do much to promote rest and sleep, which are essential for sustaining the vitality of the patient.

THE DENVER CHEMICAL MANUFACTURING COMPANY
163 Varick St., New York, N. Y.

(Fill in)
Name and Address----------

The Product of Liver Extract and Hemoglobin Compound

Compounded at Laboratories of Chappel Bros., Inc.

HEMO-GLYCOGEN

Mail the Coupon for Literature

In Cases of Pregnancy

In 50% of all cases of pregnancy, anemia has been observed. Every expectant mother should be prepared for the delivery by keeping her blood count on the level, with Hemo-Glycogen, prepared from hemoglobin, liver extract and blood serum. (Administered by mouth.) A quick response by increase of the hemoglobin and the red cell count in the blood of the patient will be observed. Hemo-Glycogen is indicated in general anemia, chronic debilitating diseases and in malnutrition requiring a general tonic.

Dispensed through physicians. Full size bottle mailed free on request for physician's use.

LABORATORIES CHAPPEL BROS., INC.
Rockford, Illinois

Please mail free one full size bottle HEMO-GLYCOGEN for my use.

Dr. .....

Address .....

.....

.....

THE DEPENDABLE URINARY ANTISEPTIC

UROLITHIA

non-alcoholic containing

HEXAMETHYLENAMINE
40 grs. in the ounce

The suggested dose, a tablespoonful, makes possible the administration of larger doses of

HEXAMETHYLENAMINE
without irritation

because

of its combination with COUCH GRASS and CORN SILK and the BENZOATES in a standardized fluid.

Clinical trial packages and literature are yours upon request.

COBBE PHARMACEUTICAL CO.

221 N. Lincoln St., Chicago, Ill.

Reed & Carnrick's
Single Gland Products

Corpus Luteum
•
Mammary
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Pancreas
•
Parathyroid
•
Pineal
•
Pituitary Anterior
•
Pituitary Posterior
•
Pituitary Whole
•
Suprarenal Cortex
•
Suprarenal Medulla
•
Suprarenal Whole
•
Thymus
•
Ovarian Residue
•
Ovarian Substance

and

Thyracoids



Thyracoids represents Reed & Carnrick's most striking addition to a distinguished list of Endocrine Products. This biologically standardized agent consists of iodothyroglobulin, (iodothyrin linked to a Protein.) It is of uniform strength and represents the entire activity of the desiccated thyroid.

The dosage varies according to the degree of hypothyroidism and must be determined by the physician in each individual case.

REED & CARNRICK

Jersey City, New Jersey

YOUR CO-OPERATIVE CLINIC TOURS

EUROPE

SUMMER, 1932

IN ESPECIAL CONNECTION WITH THE

Centennial Anniversary Meeting

OF THE

British Medical Association

Under the Organization Auspices of every State Medical Journal of the United States in which this or any related subsequent Announcement appears.

IMPORTANT FEATURES

1. Very high grade accommodations throughout, including the use on the ocean of the great "Bremen" and "Europa" of the North German Lloyd, the fastest and most luxurious ocean steamships in the world —
2. Very low prices made possible by the fact that all ordinary advertising costs have been eliminated and the margin of operating profit cut to an absolute minimum —
3. Individual clinic arrangements in every important city visited, under the personal supervision of some of the most distinguished clinicians in Europe —
4. American leaders of high professional standing for each of these groups —

Business Management

AMEROP TRAVEL SERVICE, INC.

TOUR I

A de-luxe early-summer tour sailing on June 7 from New York and returning fro London immediately after the Centennial meeting in London. Forty-seven days on lan abroad, visiting most of the great clinic centers of Europe.

ITINERARY

June 7	Sail from **NEW YORK** on the "**EUROPA**"
June 12	Land in Cherbourg. Paris.
June 13–17	**PARIS.** Excursion to Versailles. Clinics.
June 18	Train to Berne.
June 19–20	**BERNE.** Clinics. Optional excursion to Leysin, to Rollier Clinic.
June 21–22	**INTERLAKEN.** Mountain excursion to Lauterbrunnen, Kleine Scheidegg and Grindelwald.
June 23	Bruenig Pass route to Lucerne.
June 24	**LUCERNE.** Trip to Rigi Kulm.
June 25–27	**ZURICH.** Clinics.
June 28	Via Lindau to Munich.
June 29 to July 1	**MUNICH.** Clinics. Optional excursions in Bavarian Alps.
July 2	Via **SALZBURG** to Vienna.
July 3–7	**VIENNA** and vicinity. Clinics.
July 8–9	**PRAGUE.** Clinics.
July 10	Through "Saxon Switzerland" t Dresden.
July 11–12	**DRESDEN.** Clinics.
July 13–14	**LEIPZIG.** Clinics.
July 15	To Berlin.
July 16–19	**BERLIN.** Clinics. Excursion to Pot dam.
July 20	Through Northern Germany to Am sterdam.
July 21–22	**AMSTERDAM.** Clinics. Excursio to Marken, etc.
July 23	**THE HAGUE.** Clinics.
July 24–29	**LONDON.** Meeting of British Me ical Association. Motor to Windso Castle and Hampton Court.
July 29	Sail on the "**BREMEN**" from Soutl ampton.
Aug. 3	Arrive in **NEW YORK.**

Price, using **best tourist** accommodations on the ocean and **de-luxe hotels** on land, **$89**

Price, using identical accommodations on land but **First Class** on the ocean as well,. **$121**

TOUR II

An A-grade, late-summer tour, sailing direct to London for the Centenary meetin and continuing over the same route as Tour I, but in reverse direction.

ITINERARY

July 19	Sail from New York on the "**EUROPA.**"
July 24	Arrive Southampton and London.
July 25–29	**LONDON**—British Medical Association. By motor to Windsor and Hampton Court.
July 30	**THE HAGUE.** Clinics.
July 31 to Aug. 1	**AMSTERDAM.** Clinics. Excursion to Marken.
Aug. 2	To Berlin.
Aug. 3–6	**BERLIN.** Clinics. All-day trip to Potsdam.
Aug. 7–8	Dresden. Clinics.
Aug. 9	Through "Saxon Switzerland" to Prague.
Aug. 10	**PRAGUE.** Clinics.
Aug. 11	To Vienna.
Aug. 12–15	**VIENNA,** and vicinity. Clinics.
Aug. 16	Via **SALZBURG** to Munich.
Aug. 17–19	**MUNICH.** Clinics. Optional trips t Bavarian Alps.
Aug. 20	To Lucerne, via Lindau.
Aug. 21	**LUCERNE.** Trip to Rigi Kulm.
Aug. 22	Bruenig Pass to Interlaken.
Aug. 23	**INTERLAKEN.** By Alpine railwa to Lauterbrunnen, Kleine Scheideg and Grindelwald.
Aug. 24–25	**BERNE.** Clinics. Optional excursio to Leysin, Rollier Clinic.
Aug. 26	To Paris.
Aug. 27 to Sept. 1	**PARIS.** Clinics. Excursion to Ma maison and Versailles.
Sept. 2	Sail from Cherbourg on th "**BREMEN.**"
Sept. 7	Arrive in **NEW YORK.**

Price, using **A-Grade** but not de luxe hotels on land and, on the ocean, best tourist accommodations..... **$774**

Price, using identical accommodations on land but **First Class** on the ocean, **$1095**

TOUR III

A short vacation tour, providing a week in London for the Centenary meeting and a week in Paris. Two delightful weeks abroad and yet only 24 days (a trifle over three weeks) out of this country, a schedule made possible by the great speed of the ships we use.

ITINERARY

July 19	Sail from New York on the "BREMEN."
July 24	Arrive in Southampton and London.
July 25–30	LONDON. British Medical Association. Motor to Windsor and Hampton Court.
July 31	By fast channel service to Paris.
Aug. 1–6	PARIS. Clinics. Excursion to Malmaison and Versailles.
Aug. 8	Sail from Cherbourg on the "EUROPA."
Aug. 12	Arrive in NEW YORK.

Price—First Class on the ocean and de luxe accommodations in hotels and on trains in Europe **$760**

Price—Tourist Class on the ocean and good but less expensive accommodations on land **$365**

CLINIC ARRANGEMENTS

It is our policy (1) to avoid burdening our foreign friends with any obligations of social hospitality and (2) substitute individual clinic arrangements for the mass clinics that, in the very nature of the case, can be of interest only to a small minority of any party.

Each doctor who registers for the tour will have specific assignments made for him in each clinic city along the line of his special interest. These local assignments will be in the most competent and distinguished hands. A detailed account of these arrangements will be found in the official tour announcement, which we shall be glad to send you, and will also appear in later issues of this Journal.

SIGHTSEEING

There will be a full sightseeing program in every city visited on the tour arranged, so far as possible, not to conflict with clinic assignments; it is earnestly desired that doctors, as well as wives and other guests, may enjoy it. Nothing will be omitted from the sightseeing program that would be included in any high-grade standard tour.

THE "BREMEN" AND "EUROPA"

The "Bremen" and "Europa" represent the greatest triumph in ship-building down to date. In beauty and convenience and speed they constitute a class by themselves. Our decision to use these great ships is based upon two chief considerations:

1. As against the much smaller and slower "cabin" ships, these ships save a good week of time on the round trip. In this extra week at home any doctor with a good practice will make enough to pay more than the difference between cabin on the small ships and first class on these supreme liners.

2. Tourist class on these ships has every modern comfort as well as singular beauty in appointment and design. Using these accommodations one may take either of these tours, with identical accommodations on land and with, of course, the same advantage of ocean speed, at prices unheard of for tours of this grade,—prices ordinarily associated with inexpensive "student" tours!

And those who want the greatest luxury available at sea may have it. Furthermore, it will cost in the case of Tour I only a trifle more, and in the case of Tour II actually *less*, than is elsewhere being charged for Clinic tours using the comparatively small and slow cabin ships!

HOTELS

As indicated, these tours are based upon the use of two types of hotels. Tour II, and the less expensive (B) section of Tour III, will use hotels of good standard grade, in some cases of the highest grade. Tour I, and the First Class section of Tour III, will use de luxe hotels throughout. These are indicated in the following lists of the hotels for which preliminary arrangements have already been made:

City	Tour I (Tour III-A)	Tour II (Tour III-B)
London	Piccadilly	Great Central
The Hague	Central	Terminus
Amsterdam	Victoria	Krasnapolski
Berlin	Bristol	Excelsior
Leipzig	Astoria	
Dresden	Palast Hotel Weber	Palast Hotel Weber
Prague	Esplanade	Wilson
Vienna	Grand	Meisl and Schadn
Munich	Regina Palast	Bayerischer Hof
Zurich	Baur-au-Lac	
Lucerne	Montana	Montana
Interlaken	Regina Palace	Royal St. George
Berne	Bellevue	Bellevue
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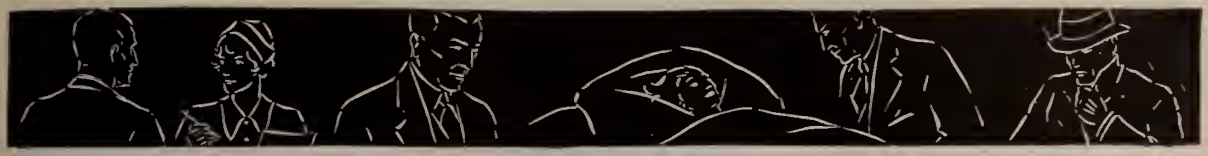
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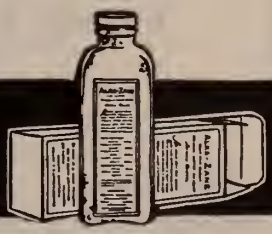
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Book Reviews

The Surgical Clinics of North America. (Issued serially, one number every other month.) (Volume 11, No. 6. (Philadelphia Number—December, 1931) 309 pages with 87 illustrations. Per Clinic Year (February 1931 to December 1931.) Paper, $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1931.

The contributors to this number are Doctors Adler, Babcock, Baer, Bates, Albert Bothe, Frederick Bothe, Carnett, Crossan, Deaver, Downs, Ebeling, Eliason, Fay, Flick, Jackson, Konzelmann, Lee, Linney, North, Owen, Pendergrass, Shallow, Stellwagen, Swartley, Walkling Wedder, Willauer, Wright.

Non-Surgical Consideration of Prostatic Enlargement. By Edwin W. Hirsch, M.D. Minneapolis and St. Paul. Bruce Publishing Company. 1931. Price $2.00.

This monograph is intended to show by research and reasoning that many mutilating and unnecessary surgical procedures have done little good in cases of diseased prostates and that many of these scarred senescent men could have obtained relief by non-surgical treatment.

Conquering Arthritis. By H. M. Margolis, M.D., New York. The MacMillan Company. 1931. Price $2.00.

This work is intended for the patient who has become discouraged because of duration of the disease. This work should be of great assistance in the hands of the patient afflicted with arthritis and of immense aid to the doctor who has arthritic patients under his care.

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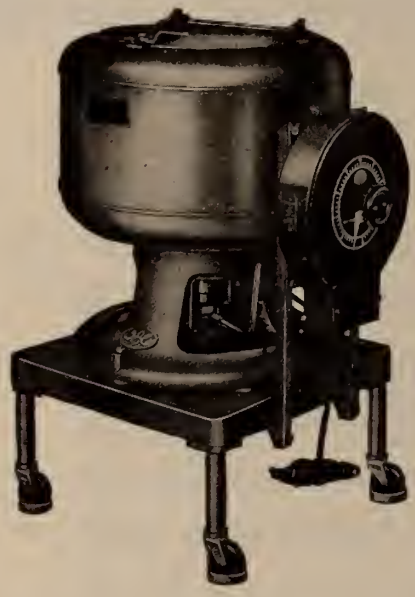
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Book Reviews

History of Medicine in the United States. By Francis R. Packard, M. D. 103 illustrations. 2 volumes. New York. Paul B. Hoeber, Inc. 1931. Price net $12.00.

The two volumes of Medical History In The United States written by Dr. Packard and containing 1348 pages and 103 illustrations fills a long recognized vacuum in medical history. The book serves as a veritable reference encyclopedia in this section of the history of medicine, it also furnishes the reader with many hours of fascinating entertainment, bringing to him a close acquaintance with the characters that built "American Medicine" and a familiarity with the world in which they lived.

As the story unfolds we see the history of America as well as the History of American Medicine and we see how closely the two are interwoven. We see great epidemics, great men, great pioneers, great trends in medical education, in practice, in hospital work, in legislation in research, great advances, improvements, developments. We see how they came about and why they came about. Almost every page contains something that we can translate into doctrines to present day use, into our modern outlook on medicine, our contemplation of problems that we face today and shall face tomorrow.

Medical Clinics of North America. (Issued serially, one number every other month.) Volume 15, No. 4. (Boston Number—January, 1932) Octavo of 268 pages with 18 illustrations. Per Clinic Year, July, 1931, to May, 1932. Paper, $12.00; Cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1932.

The contributors to this number are Drs. Blotner, Blumgart, Christian, Ellis, Ernstene, Faulkner, Forkner, Heath, Holmes, Hunt, Jackson, Jordan, Joslin, Keefer, Lord, Means, Minot, Morse, Murphy, Robey, Root, Sprague, Sutliff, Werss, White.

Courts & Doctors. By Lloyd Paul Stryker. New York. The Macmillan Company. 1932. Price $2.00.

In this book, the author, for many years general counsel for the Medical Society for the State of New York and having personal charge of the legal policy of the Society and the defense of its members who were sued for malpractice, offers advice and counsel that will be instrumental in protecting the doctors against unwarranted attack upon their professional character.

A Text-Book of Clinical Neurology. By Israel S. Wechsler, M. D., Professor of Clinical Neurology, Columbia University, New York; Attending Neurologist, Neurological Institute and The Montefiore Hospital, New York City. Second Edition, Revised. 759 pages with 142 illustrations. Philadelphia and London: W. B. Saunders Company, 1931. Cloth, $7.00 net.

In this work which follows closely the publication of the first edition the author has recorded the progress made in the field of neurology in the past five years, bringing the work strictly up-to-date.



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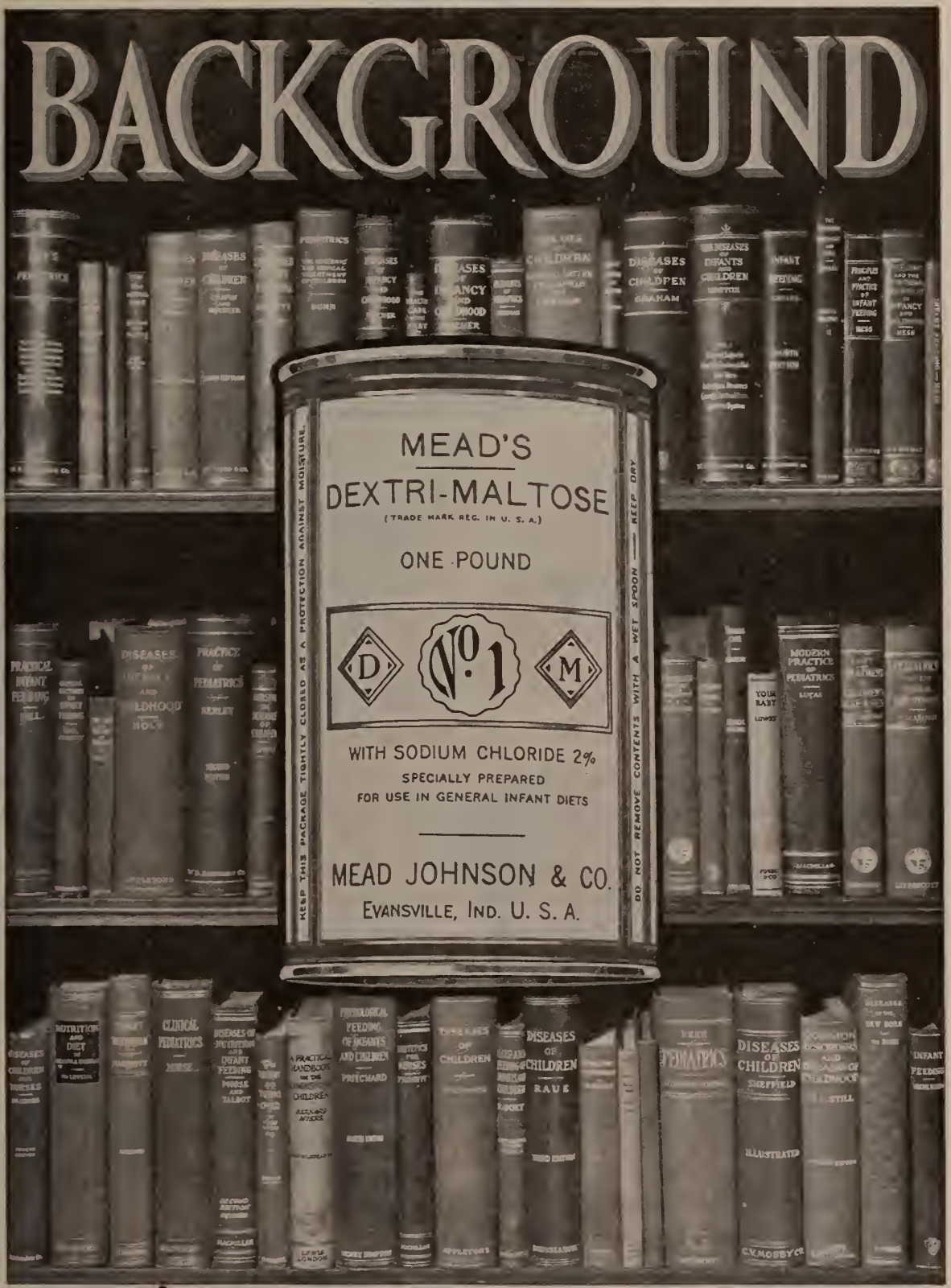
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¾ cup water	....	....	....	....	.....
2 eggs	100.	13.	10.5	....	.....
1½ teaspoonfuls vanilla	....	....	....	....	.....
1 tablespoonful sugar	8.	....	....	8.	.....
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Grated rind 1 lemon	....	....	....	....	.....
4 tablespoonfuls lemon juice	40.	....	....	4.	.....
2 tablespoonfuls sugar	16.	....	....	16.	.....
	....	9.	....	20.	116

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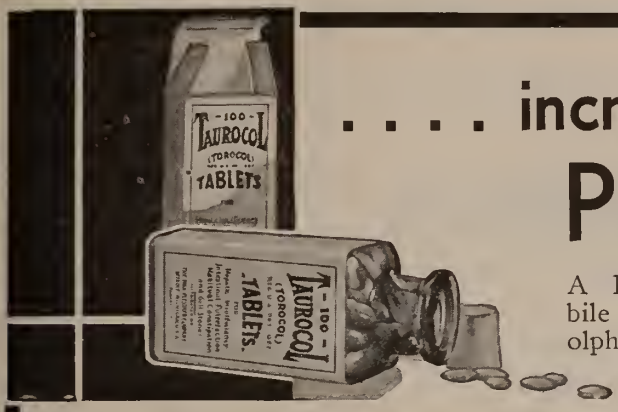
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But medical science changes rapidly. Hardly a year passes but what some important discovery revolutionizes the thinking of the medical profession. The new is constantly replacing the old.

Sometimes, perhaps, medical men seem slow to grasp the new, but that is simply because they want to be sure of their ground. They must be convinced by facts of the superiority of one treatment over another before making a change, which of course, is as it should be. Once convinced, however, they waste no time in making the switch.

Internists, today, are rapidly switching from the old method (alkaline antacids) in treating peptic ulcers, heartburn, hyperacidity and the like to the new method (neutral antacids, as represented by granular effervescent TRI-CALSATE) because of these facts:

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2 TRI-CALSATE, the neutral gastric antacid, does not irritate the bowel or kidney. Alkaline antacids, on the contrary, are irritating to the urinary and gastro-intestinal tracts.

3 TRI-CALSATE, the neutral gastric antacid, guards against the possibility of an alkalosis, for the end products and excess tribasic calcium phosphate are excreted thru the intestines and not by the kidneys. Alkaline antacids, however, are likely to produce alkalemia, for the end products are excreted by the kidneys.

4 TRI-CALSATE, the neutral gastric antacid, offers positive relief by neutralizing the excess HCL of the gastric content without stimulating gastric secretion. Alkaline antacids, however, afford but temporary relief, for after the process of neutralization has taken place a decided increase in acid secretion always follows.

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STATE MEDICINE IN RUSSIA

In an article in the *Saturday Evening Post,* "Soviet Russia and the Depression," by Eve Garette Grady, there is much enlightening information on the working of state medicine. The author states that a Soviet law compels all individuals employing servants to take out insurance with their trade-unions for the purpose of protecting them against accident or illness. This insurance must be kept strictly up to date, on pain of fine.

One morning her servant was stricken with severe pains in the stomach; she was lying on the kitchen floor writhing in agony. Going immediately to the telephone she called up the medical center, to ask that a doctor be sent to the house at once. "We are very sorry," was the reply, "all our physicians are out, and none will be available for three days. No, there is nothing we can do." Then the receiver was hung up. In desperation she called up the Red Cross ambulance with hopes that the patient might be taken to the hospital. But a languid voice, in a tone of finality, said, "We will not come."

The Soviet government has centralized all the nation's medical forces, mobilized all the doctors and nurses as employes of the state and abolished all private practice. The medical men are very much underpaid and overworked, and their humanitarian instincts are rapidly becoming blunted.

This is something to think about for those who are advocating state medicine here. How much better off is the man, who for a nominal fee, can summon the physician in whom he has faith; a physician who does not regard him merely as a cog in a wheel or an interesting case; one whose very existence, as a practitioner depends upon the good will of his patients, one who has a heart as well as a head.

CHOKED DISC (PAPILLEDEMA) DUE TO DISEASE OF SPHENOIDAL SINUS

According to Albert E. Bulson, Fort Wayne, Ind. (*Journal A. M. A.,* Sept. 26, 1931), the possibility of having a papilledema caused by suppuration of the sphenoid seems to be definitely established. While he is opposed to undue haste in deciding to open any sphenoid sinus, and to the performance of unnecessary operations, he believes that one is not justified in following a conservative course when the diagnosis seems conclusively determined as a result of the conditions found by the cooperation of ophthalomologist, rhinologist and roentgenologist. The possible consequences of delay are too serious to justify temporizing, and particularly when operation on the sphenoid by a competent rhinologist, guided as he should be by pictures made by a skilled roentgenologist, is a relatively safe procedure from an operative standpoint.

All good governments must begin at home. It is useless to make good laws for bad people. Public sentiment is more than law.—H. R. Haweis.

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STREPTOCOCCUS VACCINE THERAPY IN CHRONIC ARTHRITIS

Dr. Mitchell Shuster, Medical Journal and Record, October 7, 1931, reviews the various prevailing concepts of the etiology of atrophic and hypertrophic arthritis, evidently favoring the view that both types are but different expressions of one and the same condition. The same irritant acting upon different structures in the joint might be responsible for either type of arthritis. The degree of bacteremia, the degree of virulence of the infectious organisms, the resistance of the tissues, and the fact that the mode of infection is hematogenous, are all factors that may produce variations in the clinical symptoms. Atrophic arthritis is now generally believed to be due to streptococcus infection, but the infectious etiology of hypertrophic arthritis is still in dispute.

It has been suggested that hypertrophic arthritis is not due to the actual presence of bacteria in the joint tissues but to toxins or bacterial proteins liberated in distant foci. Fisher's experiment adds support to this view; injecting the sterile synovial fluid obtained from an early osteoarthritic joint into a rabbit's knee, he found, four months later, definite osteo-arthritic changes in this joint.

The treatment of 456 clinic cases over a period of five years thoroughly convinced the author of the value of mixed streptococcus vaccine. A stock vaccine, containing many antigenically different hemolytic, non-hemolytic and viridans strains was employed. No other treatment was administered; even infected foci were left untouched. Nearly all the patients had been referred from medical or orthopedic clinics, and so in most instances had previously received the usual routine treatment without benefit. Subcutaneous injections were given bi-weekly; the initial dose in all but the very acute cases was twenty-five million, the subsequent dosage depending entirely upon the reaction. Exhaustion, loss of weight, increase in pulse rate and marked focal or general reactions were the indices of overdosage.

A tabulated summary of the results is as follows:

	Total Number of Cases	Cases Showing Marked Imp.	Percentage Showing Marked Imp.
A. Males	143		
Atrophic arthritis	86	54	63
Hypertrophic arthritis	38	22	58
Mixed arthritis	19	12	63
B. Females—postmenopause	200		
Atrophic arthritis	111	70	66
Hypertrophic arthritis	63	38	60
Mixed arthritis	26	16	61
C. Females—premenopause	113		
Atrophic arthritis	91	60	66
Hypertrophic arthritis	16	10	62
Mixed arthritis	6	4	66

The complement fixation test is of some value in determining the specific strain causing the infection, but is by no means as satisfactory as could be desired.

The homes of a nation are the bulwarks of personal and national safety and thrift.—J. G. Holland.

RÔLE OF FEMALE SEX HORMONE

According to Robert T. Frank, New York (*Journal A. M. A.*, Dec. 19, 1931), the female organism, from the neonatal age to the menopause, and perhaps beyond this critical period, is under the influence of the prepituitary hormone and the female sex hormone. After puberty, it is affected at intervals by the progestational hormone. He summarizes these various endocrine influences thus: The anterior lobe hormone stimulates the ovary to produce follicles. The follicle in turn elaborates the female sex hormone, which reaches the tubular tract (tubes, uterus, vagina) by means of the blood stream. The tubular tract, after sufficient blood concentration has been reached, then undergoes the early premenstrual changes. Following ovulation, the corpus luteum develops. This transitory gland continues to produce female sex hormone as well as a special hormone, whose presence in the circulation has not yet been demonstrated, enhancing the local uterine and breast changes necessary for the nidation and early nutrition of the fertilized ovum. Among these changes, sensitization of the uterine mucosa, requisite for successful embedding, is particularly important. If the corpus luteum is removed at this early stage, the ovum fails to secure the necessary firm hold in the endometrium and abortion results. The chorion epithelium, later developing into the placenta, an important gland of internal secretion, takes up the production of both female sex hormone and prepituitary hormone. Probably as a safety factor the circulation is flooded with these two internal secretary products to such a degree that an enormous amount is excreted through the kidneys and bowel throughout pregnancy.

PREVENTION OF GOITER IN DETROIT AND CLEVELAND

O. P. Kimball, Cleveland (*Journal A. M. A.*, Dec. 19, 1931), presents a comparative study of the prevention of goiter in Detroit and in Cleveland which demonstrates how quickly any community can completely eradicate endemic goiter when there is a unity of all the forces that direct its public health. Without this unity, public health cannot take care of itself. The safety of present methods of prevention of goiter also are considered. Detroit and Cleveland are practically the same size, and as far as is known the natural conditions and the factors determining endemic goiter are the same. The author has been intimately connected with the work in the two cities. In Detroit this preventive measure had the leadership and cooperation of the state department of health, the city department of health, the school board, school physicians and the medical profession. In Cleveland there has been no unity of thought or action. By the prevention of endemic goiter, Michigan has eliminated from her schools in the future thousands of cases of feeblemindedness (cretinoid type), which have in the past and would in the future result from endemic goiter. The rapid disappearance of endemic goiter among school children throughout Michigan is one of the outstanding achievements in preventive medicine.

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(Continued on Page 34)

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(Continued from Page 32)

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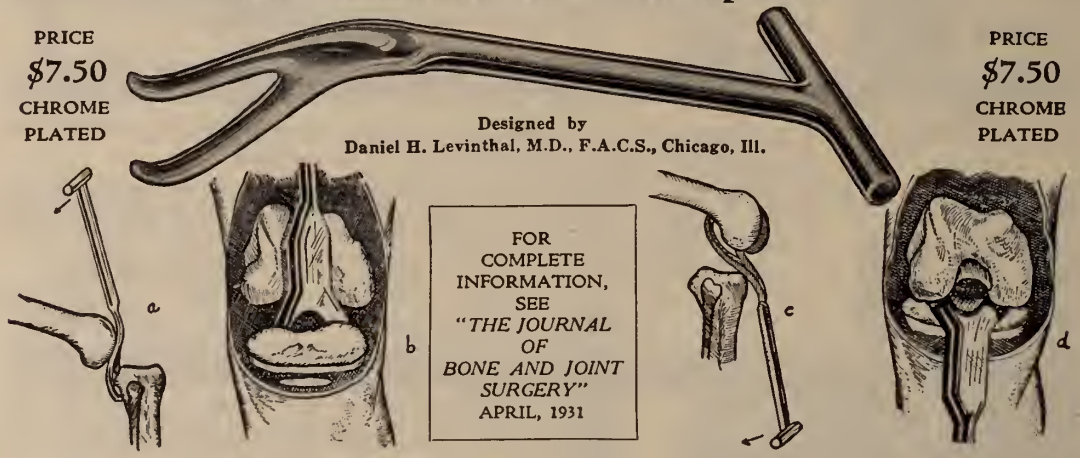
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b. Front view, showing the generous exposure of the upper surface of the tibia and the retraction of the femur and the popliteal structures.

c. Schematically demonstrating the use of the instrument, lateral view, retracting the tibia, and bringing the femoral condyles forward.

d. Front view, showing the complete exposure of the femoral condyles, retraction of the tibia, and protection of the popliteal structures.

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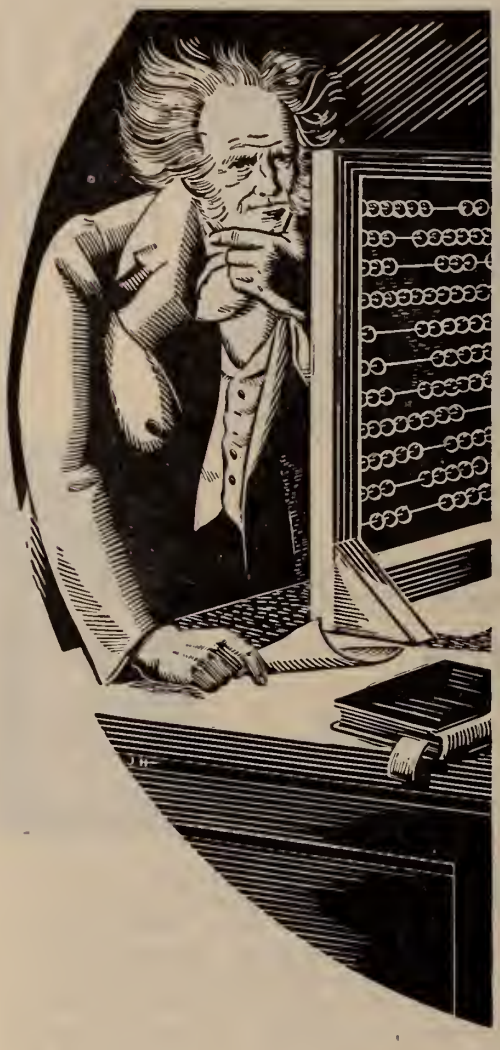
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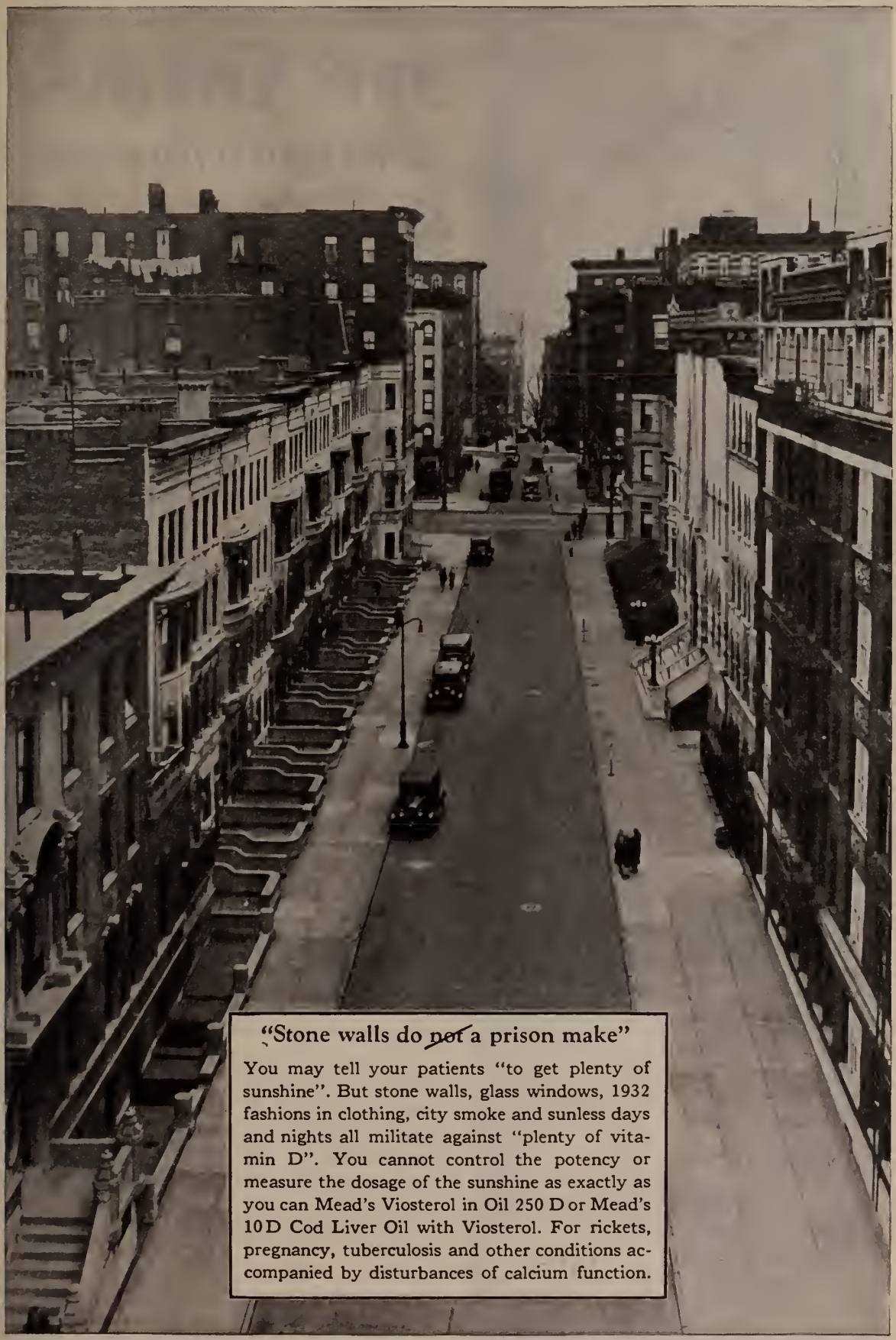
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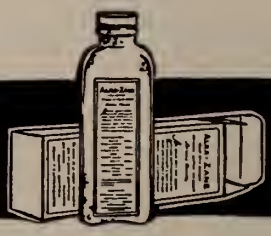
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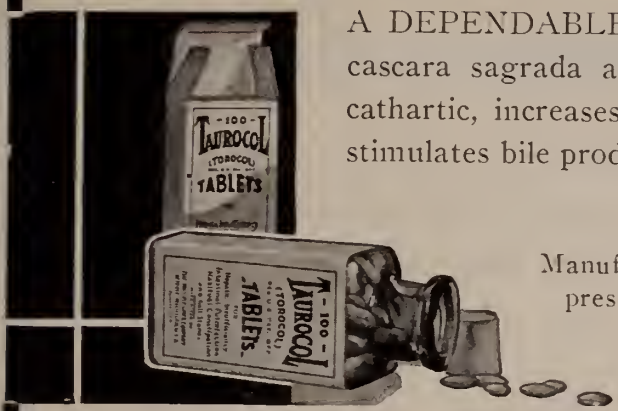
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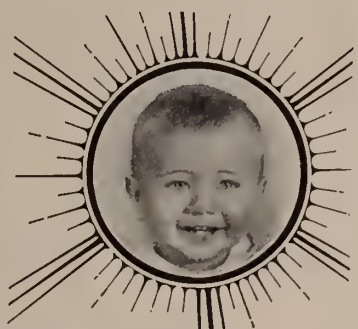
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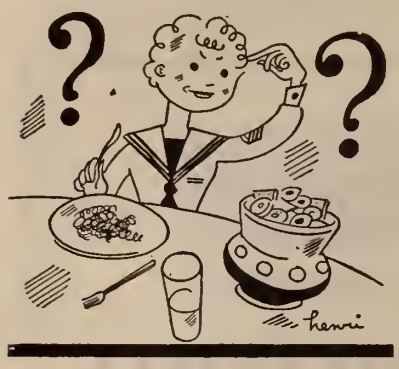
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FUNDAMENTALS OF ORTHOPAEDIC SURGERY IN GENERAL MEDICINE AND SURGERY. By Robert B. Osgood, M. D., and Nathaniel Allison, M. D. New York: The Macmillan Company. Price, $3.00.

The purpose of this collection of lectures is to make available to the advanced medical student and general practitioner information as to the diagnosis and the immediate treatment of diseases and lesions falling in the domain of Orthopaedic Surgery. The authors emphasize those contacts between Orthopaedic Surgery and General Medicine and General Surgery which every physician encounters. The subject matter should enable the practitioner to apply intelligent "first aid" and to recognize the nature of the lesion or the presence of the underlying disease.

LIVING THE LIVER DIET. By Elmer A. Miner, M.D. With Introduction by William P. Murphy, M.D. St. Louis. The C. V. Mosby Company. 1931. Price $1.50.

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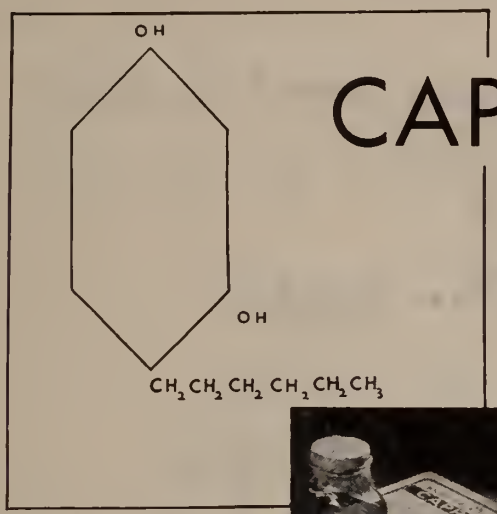
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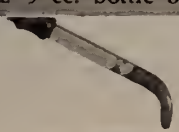
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To the Editor:—Please advise me whether administration of irradiated ergosterol to pregnant women could cause a premature calcification of the fetal head, resulting in dystocia, with possibly damage later to the child.

M.D., Waco, Texas.

J.A.M.A., Dec. 19, 1931, p. 1914

ANSWER.—There is no danger to mother or child from therapeutic doses of viosterol (irradiated ergosterol) given during pregnancy. In fact, such medication probably would be of advantage, owing to the excessive drain of calcium and phosphorus that takes place during this period. This medication is especially indicated in cases in which the intake of calcium compounds has been insufficient.

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Book Review

The Surgical Clinics of North America. (Issued serially one number every other month.) Volume 12, No. 1. (Chicago Number—February, 1932.) 240 pages with 92 illustrations. Per clinic year (February, 1932, to December, 1932), paper, $12.00; cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company, 1932.

The contributors to this number are Doctors Abbott, Andrews, Christopher, Compere, Curtis, Loyal Davis, Denney, Headbloom, Kretschmer, McWhorter, Ryerson, Shambaugh, Speed.

Cancer: What Everyone Should Know About It. By James A. Tobey, Dr. Ph., with Introduction by Joseph Bloodgood, M. D., New York. Alfred A. Knopf. 1932. Price, $3.00.

Varicose Veins, with Special Reference to the Injection Treatment. By H. O. McPheeters, M. D. Illustrated with 62 half tones and line engraving. Third revised and enlarged edition. Philadelphia: F. A. Davis Company. 1931. Price, $4.00.

In this edition the writer has added a new chapter on the causes and failure in the injection treatment of varicose veins, and the chapter on elephantiasis has been expanded to include the elephantoid states due to lymphatic obstruction, a subject in close relationship to that of varicose veins. The work has been brought up-to-date by the insertion of additional information available since the previous edition.

United States Army X-Ray Manual. Second Edition, rewritten and edited by Lt. Col. H. C. Pillsbury, M. C., U. S. A. 228 illustrations. New York: Paul B. Hoeber, Inc. 1932. Price, $5.00.

This edition has been prepared to meet changed conditions that have come about since publishing the first edition.

The section on physics has been rearranged to permit more convenient reference, and descriptions of new types of apparatus and appliances have been added. Technique, formerly distributed through the book, has been consolidated in one section. The section describes how films may be exposed and developed. In the section on the localization of foreign bodies the description of a number of methods of localization has been omitted, as the omitted methods were seldom used during the World War. The sections on interpretation have been amplified and brought up to date. New illustrations have been borrowed from many sources.

The Manual is a condensed description that covers apparatus, technique and interpretation. All reference to therapy has been omitted, as an adequate description is beyond the scope of the book.

Electrotherapy and the Elements of Light Therapy. By Richard Kovacs, M. D. Illustrated with 211 engravings. Philadelphia: Lea & Febiger. 1932. Price, $6.50 net.

This work is intended to show the possibilities and limitations of that part of modern physical therapy which practicing physicians can carry on in their own offices. The volume begins with elementary electrophysics and leads up to the physics of the different electrical currents covering the apparatus for their production, explaining their action on the body and describing the technique of application, the indication, contra-indications and the possible dangers involved.

Surgical Pathology of the Female Generative Organs. By Arthur E. Hertzler, M. D. 285 illustrations. Philadelphia, Montreal and London: J. B. Lippincott Company. 1932. Price, $5.00.

In this volume the author has presented only the things that he has seen and the end results which he knows. Th author's chief concern has been to emphasize the need of conservatism in operation and to point out the baneful effects of useless operation, which he claims has reached the magnitude of major tragedy. None but those who have seen castrated women literally by the thousands can fully grasp the meaning of these words.

Surgical Errors and Safeguards. By Max Thorek, M. D. 668 illustrations, many colored. Philadelphia, Montreal and London: J. B. Lippincott Company. 1932. Price, $10.00.

Our surgical textbooks tell us what to do and how to do it, but seldom tells us what not to do, how to avoid complications and technical errors or how to act when face to face with some of the abnormal circumstances which constantly present themselves during the course of a surgical operation. This work shows not only errors and safeguards in connection with surgical operations in general and pre- and postoperative care of the patient, but covers failures in surgery, the "bad risk" patient and the errors and safeguards in blood transfusion; operations on the head; neck; thorax; abdomen, in general; stomach; intestinal operations; liver; biliary system, pancreas and spleen; hernia; urinary tract; male genitalia; gynecologic operations; extremities; spinal cord; and failure due to defective instruments and foreign bodies left within the body.

Female Sex Hormonology. By William P. Graves, A. B., M. D., F. A. C. S., Professor of Gynecology at Harvard Medical School: Surgeon-in-Chief to the Free Hospital for Women and to the Parkway Hospital, Brookline, Massachusetts. 131 pages, with illustrations. Philadelphia and London: W. B. Saunders Company, 1931. Cloth, $3.50.

Survey of the Medical Facilities of the State of Vermont. By Allon Peebles, Ph. D. Chicago, Illinois: University of Chicago Press. January, 1932. Price $1.50.

This publication is number 13 of the cost of medical care. This report is the fourth of a series of reports being published by the committee on the cost of medical care on the medical facilities available to communities of various types in the United States. This survey of a New England State provides valuable data not made available in community surveys hitherto conducted.

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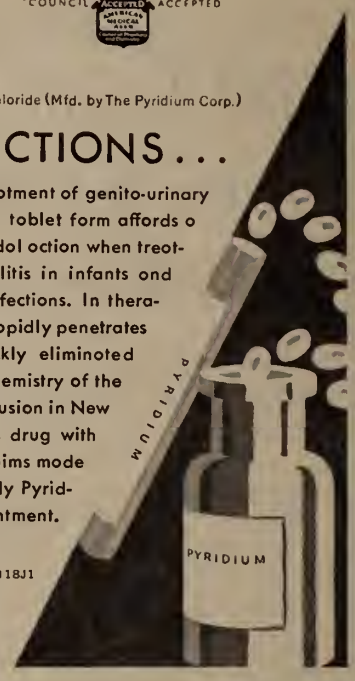
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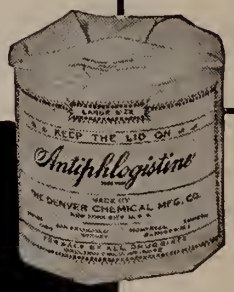
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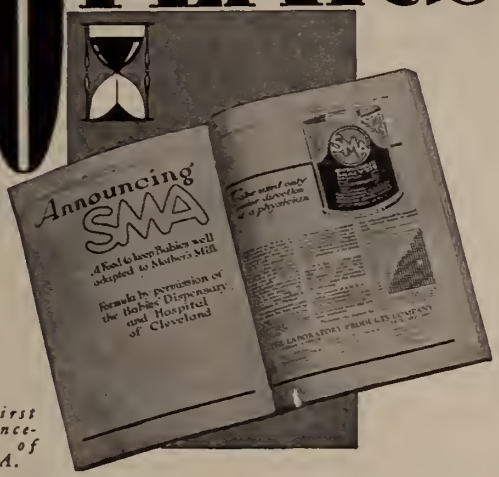
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Book Review

FOODS IN HEALTH AND DISEASE. By Lulu G. Graves. New York. The Macmillan Company. 1932. Price $3.50.

This work covers the practical points regarding food materials, their production and transportation, their care in the home and in the market; the dietetic value of the well known foods, and of others not so well known as they deserve to be.

THE GENIUS OF LOUIS PASTEUR. By Piers Compton. New York. The Macmillan Company. 1932. Price $4.50.

In this work the author traces the life and discoveries of one of the most brilliant scientists of all time. There is no single supreme accomplishment with which the name of Pasteur may be identified, for his benefits are too numerous and many featured to permit of any specific classification. This work is an appreciation of the life and accomplishments of the world's greatest scientist.

BIOCHEMISTRY IN INTERNAL MEDICINE. By Max Trumper, Ph. D., Clinical Chemist and Toxicologist; formerly in charge of the Laboratories of Biochemistry of the Jefferson Medical College and Hospital and of the Psycho-Biochemistry Laboratory, Graduate School of Medicine, University of Pennsylvania, Philadelphia, and Abraham Cantarow, M. D., Instructor in Medicine, Jefferson Medical College, Assistant Attending Physician, Philadelphia General Hospital; in charge of Laboratory of Biochemistry, Jefferson Hospital. With a foreword by Elmer H. Funk, M. D., Sutherland M. Prevost, Professor of Therapeutics at Jefferson Medical College. 454 pages with illustrations. Philadelphia and London: W. B. Saunders Company, 1932. Cloth, $5.50 net.

During recent years many advances have been made in the practical application of laboratory investigations in the diagnosis, prognosis and treatment of the disease. This is notably true of metabolism, and especially in the study of the function efficiency of certain organs and systems. In the practical application of this newer information this work will serve as an up-to-date guide.

A SPEECH FOR EVERY OCCASION. By A. G. Edgerton, LL.M., Co-author of Thirty Complete Debates. New York: Noble & Noble, Publishers. 1931. Price $2.00.

This work will be found a convenient aid to every physician and layman who is called upon from time to time to make appropriate remarks on special occasions, such as toasts, Mothers day, Fathers day, weddings, birthday, graduation day and other important events.

MIDWIVES, CHIROPODISTS AND OPTOMETRISTS—THEIR PLACE IN MEDICAL CARE. By Louis S. Reed, Ph. D., Chicago, Illinois. University of Chicago Press. March, 1932. Price $1.00.

This is number 15 of the publication of the committee on the cost of medical care.

The present publication discusses the status of these three types of practitioners in the country as a whole. The report also gives data on the numbers and distribution of these practitioners, their qualifications for rendering service in the limited fields considered as their domains, the extent of their activities, and the amounts annually spent in the United States for their ministrations.

IODOBISMITOL: SOLUBLE BISMUTH PRODUCT FOR USE IN TREATMENT OF SYPHILIS

P. J. Hanzlik, H. G. Mehrtens, Charles Gurchot and C. C. Johnson, with the assistance of Jean Spaulding and D. C. Marshall, San Francisco (*Journal A. M. A.*, Feb. 13, 1932), submit a preliminary report on the properties and actions of iodobismitol, a soluble and injectable preparation of bismuth, containing the bismuth as anion. Theoretical considerations for using bismuth in this form are given. Iodobismitol consists of sodium iodobismuthite (6 per cent) dissolved in ethylene glycol containing sodium iodide (12 per cent). It is injected intramuscularly in doses of 2 cc. containing 0.12 Gm. of iodobismuthite (equal to 0.0236 Gm. of bismuth), a proposed course of treatment consisting of ten injections in about three weeks to be followed by a rest period and additional courses as further experience may indicate. Used in doses within the therapeutic range, iodobismitol was found to be generally well tolerated locally and systematically, to be fairly rapidly absorbed and excreted, to possess antisyphilitic action, to penetrate the brain of animals, and to appear in the cerebrospinal fluid of human subjects. Accordingly, iodobismitol possesses certain advantages over the bismuth products in current use which contain the bismuth as as cation and do not dependably penetrate the brain. The authors believe that iodobismitol appears worthy of clinical trial in the treatment of spyhilis, since it offers the possibility of early treatment, and of prevention, of neurosyphilis.

BISMUTH SUBNITRATE IN TREATMENT OF ARTERIOLAR (ESSENTIAL) HYPERTENSION

Although Stieglitz recently reported excellent therapeutic results following the use of bismuth subnitrate in 200 patients with arteriolar (essential) hypertension, David Ayman, Boston (*Journal A. M. A.*, Feb. 13, 1932, obtained unsuccessful results with the drug after its long administration to a small though well studied group of patients with arteriolar hypertension. He presents the chart of one patient which illustrates the method of control and study used for all the patients, and the results obtained. While bismuth subnitrate was taken by the patient for six months, the blood pressure was not affected to the slightest degree demonstrable. On the other hand, it was lowered by thiocyanates; by frequent visits, and by frequent visits plus pink-colored water; at all times it was lowered by sitting rest periods. A similar study of fourteen other cases showed absolutely no demonstrable effect of the bismuth subnitrate on the blood pressure.

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IS RADIUM TO BE DETHRONED

A press bulletin issued by the American Chemical Society quotes Dr. Harrison E. Howe, editor of Industrial and Engineering Chemistry as saying that the new electric tube recently displayed by Prof. R. A. Millikan at Los Angeles will dethrone radium as a therapeutic and commercial agent. We quote from the bulletin as follows:

"Utilizing 650,000 volts the new tube emits rays quite comparable to those given off by radium, and it is calculated that with such a tube one might accomplish results that would be equivalent to those obtained with $5,000,000,000 worth of radium.

"There is no reason to believe that 650,000 volts is the uppermost limit, if there is any advantage in going higher, and there is confidence that the physicist can produce a tube with which results characteristic of radium can be obtained.

"One of these days, radium, which has been listed as one of the wonders of the modern world, will find itself reduced by the new competition to a place where it will be glad to be on speaking terms with a larger proportion of our population.

"There are many cases where a special technique has been developed in radium therapy.

"The insertion of tubes containing radium emanation into abnormal tissues affords an example.

"It is not expected that these new types of electric tubes will compete in this field, but it seems fair to assume that in many instances where radium therapy has already proved its worth, this newer form of energy will be found equally efficient, more susceptible to control, and of course available at but a fraction of the expense.

"Radium may retain its industrial applications, as for dial illumination, but the significance of the new 650,000-volt for industry is far-reaching and difficult to imagine."

REATTACHMENT OF CAPSULE AND EXTERNAL ROTATORS OF SHOULDER FOR OBSTETRIC PARALYSIS

Samuel Kleinberg, New York (*Journal A. M. A.*, Jan. 23, 1932), believes that the chief cause of disability in obstetric palsy is the resistant inward rotation of the arm. The permanent correction of this deformity can be accomplished through an operation on the shoulder in which the outer part of the joint capsule, including the external rotators, is transplanted forward on the humerus, and acts as a check against inward rotation of the arm. The improvement in function affects not only the shoulder but also the elbow, wrist and fingers. Ten patients have been operated on—nine by the author and one by a colleague. All have shown marked improvement. The operation is indicated in the upper arm type of obstetric palsy, especially when there is fair power in the forearm and hand.

Ultimately no nation can be great unless its greatness is laid on foundation of righteousness and decency. —Roosevelt.

PATHOLOGY AND TREATMENT OF CORNEAL ULCERS

Oscar B. Nugent, Chicago (*Journal A. M. A.*, Jan. 16, 1932), prefaces his discussion of the pathology and treatment of corneal ulcers with a brief review of the history of five layers of cornea. The surface corneal epithelium is quite resistant to germ invasion, but when infection passes the surface cells of the cornea, less resistance is encountered in the basement epithelial cells. Bowman's membrane becomes thinner and readily disappears under the influence of active germ invasion, thus offering little resistance to its progress. The potential lymph spaces of the corneal stroma rapidly fill with inactive or dead leukocytes and fibrous exudate, blocking the progress of repair and inviting further necrosis. Descement's membrane becomes thicker under the influence of inflammation and is most resistant to the process of necrosis. Corneal necrosis is mostly due, either directly or indirectly, to bacterial invasion. Ultraviolet irradiation is made more efficient because of the transparency of the cornea, which offers little resistance to the entrance of the ray. Sterilization of the necrotic and perinecrotic area is most efficiently accomplished by the Birch-Hirschfeld carbon arc lamp, and regeneration of new epithelial cells to cover the area is quite rapid. Scar formation is greatly reduced, and the resulting scar is thinner, as the result of rapid filling with epithelium, which, in a measure, prevents scar formation.

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Somebody said that it couldn't be done,
But he, with a chuckle, replied
That "maybe it couldn't" but he would be one
Who wouldn't say no till he tried.
So he buckled right in, with a trace of a grin
On his face. If he worried he hid it.
He started to sing as he tackled the thing
That couldn't done—and he did it.

Somebody scoffed: "Oh he'll never do that,
At least no one ever has done it."
But he took off his coat and he took off his hat,
And the first thing we knew he'd begun it.
With a lift of his chin and a bit of a grin,
Without any doubting or quibble,
He started to sing as he tackled the thing
That couldn't be done—and he did it.

There are thousands to tell you it cannot be done,
There are thousands to prophesy failure.
There are thousands to point out to you, one by one,
The dangers that wait to assail you.
But just buckle in with a bit of a grin,
Then take off your coat and go to it.
Just start in to sing as you tackle that thing
That "cannot be done"—and you'll do it.

—*H. Krummert.*

The plain people are the strength of this nation; with them aroused neither the rich bent on spoils nor the spoilsman bent on riches can withstand the force of their demands for justice and righteousness.—Lincoln.

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This list is corrected in accordance with the best information obtainable at the date of going to press. County Secretaries are requested to notify The Journal of any changes or errors.

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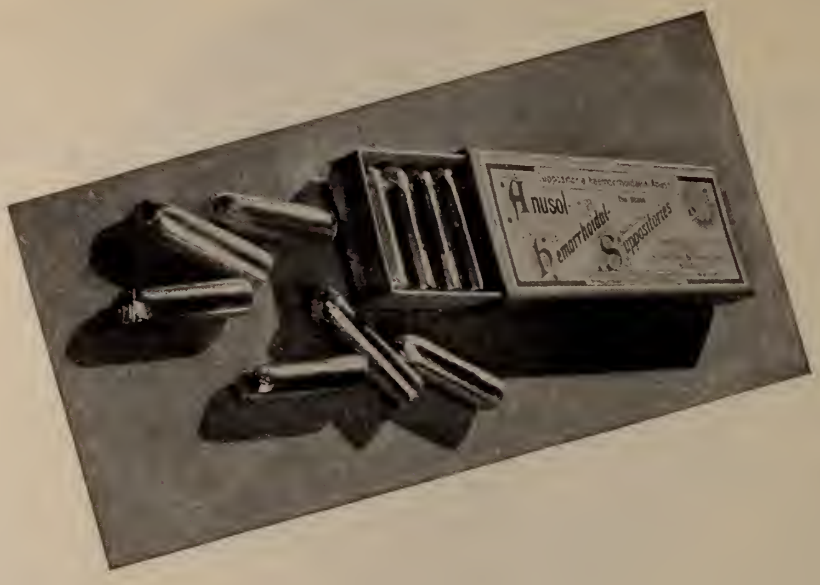
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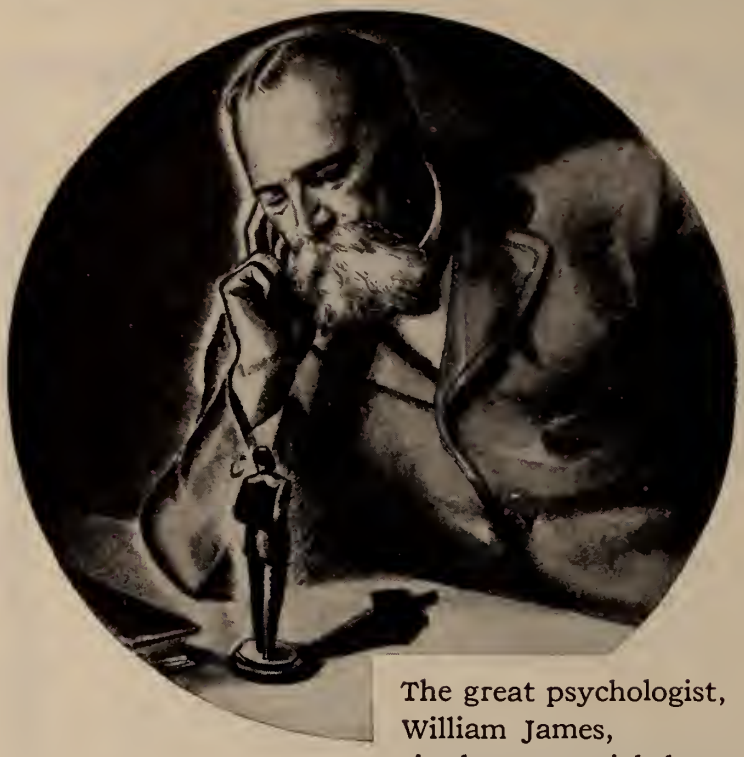
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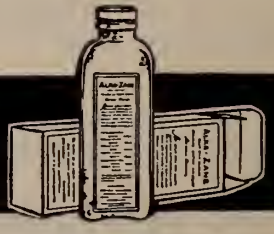
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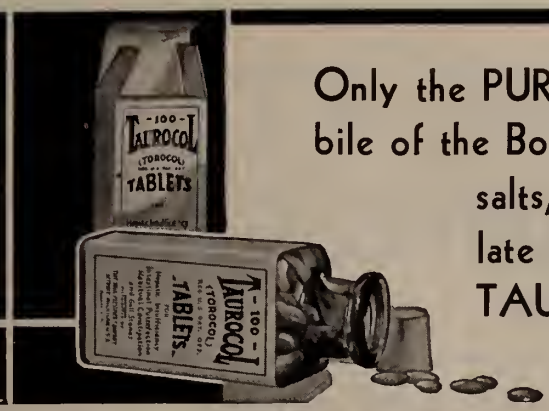


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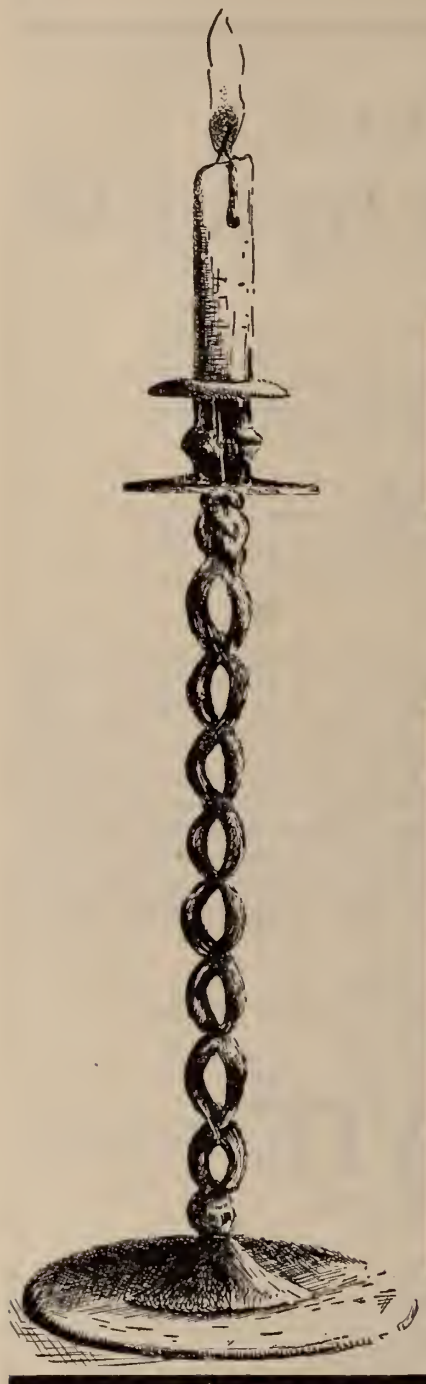
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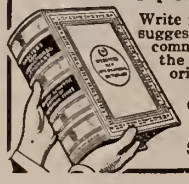
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MEDICAL CLINICS OF NORTH AMERICA: (Issued serially, one number every other month.) Volume 15, No. 5. (New York Number—March, 1932.) Octavo of 340 pages with 61 illustrations. Per Clinic Year, July, 1931, to May, 1932. Paper, $12; Cloth, $16.00 net. Philadelphia and London. W. B. Saunders Company, 1932.

The contributors to this number are Doctors Bass, Bullowa, Cohen, Connery, Fiske, Friedman, Ginandes, Goldbloom, Goldwater, Held, Impastato, Goughin, Klein, Kramer, Kugelmass, Mittelmann, Mosenthal, Nemet, Pugh, Richards, Jr., Scarff, Sherwood, Vermilye.

MODERN GENERAL ANAESTHESIA. A practical handbook by James G. Poe, M.D. Second edition, completely revised and enlarged. With twelve illustrations and two charts. Philadelphia. F. A. Davis Company. 1932. Price $2.50.

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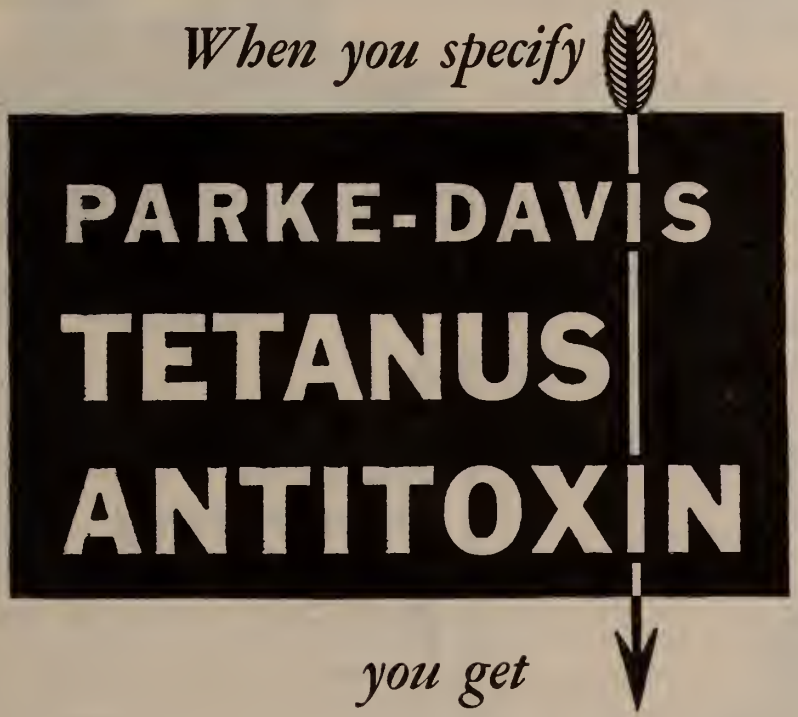
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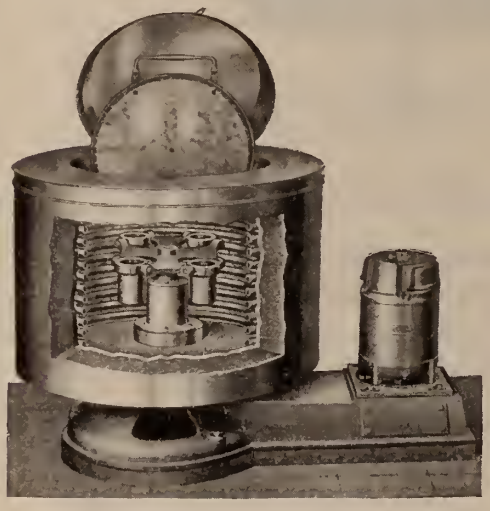
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Book Reviews

THE WAY OF HEALTH INSURANCE. By A. M. Simons and Nathan Sinai, Chicago, Illinois. University of Chicago Press. 1932. Price $2.00.

In this work the authors give a digest of insurance in action in Great Britain, Germany, France and other European countries. They present the merits and defects in the operation of health insurance so that if this devise for social relief is ever adopted in the United States, the errors in other systems need not be repeated.

The attempt to show what effect compulsory health insurance has upon the practice of medicine, upon physicians, dentists, patients, public welfare, politics, industry.

SURGICAL CLINICS OF NORTH AMERICA. (Issued serially one number every other month.) Volume 12. No. 2, (New York Number—April, 1932.) 306 pages with 84 illustrations. Per Clinic year (February, 1932, to December, 1932.) Paper, $12.00; Cloth, $16.00 net. Philadelphia and London. W. B. Saunders Company, 1932.

The contributors to this number are Doctors Adair, Deer, Burdick, Church, Davidson, Denneen, Douglas, Dudley, Erdmann, Farr, Fleming, Frank, Goodman, Heyd, Hinton, Hitzrot, Kellogg, Killian, Lowensohn, Lilienthal, MacFee, MacNeal, McCarthy, Meyer, Moolten, Patterson, Pugh, Ritter, Sheehan, Sherwood, Whipple.

A MEDICAL FORMULARY. By E. Quin Thornton, M.D. Thirteenth edition, revised. Philadelphia. Lea & Febiger. 1932. Price $2.50 net.

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GOITER

In his annual report to the Department of Public Welfare, Dr. Paul L. Schroeder, director of the Institute for Juvenile Research at Chicago, says:

"It is generally known that the great lakes region has a relatively greater number of goiter cases than any other section of the country. Children so afflicted become restless, are unable to sit still, cannot concentrate, and although having adequate intelligence, they fail in school. They are demoted in grade, become resentful and incorrigible. After an occasional ocerlooked truancy, they develop less regard for authority which feeling they carry into adult life. Treatment for thyroid disease is obviously indicated."

NARCOLEPSY: RESULTS OF TREATMENT WITH EPHEDRINE SULPHATE

John B. Doyle and Luman E. Daniels, Rochester, Minn. (*Journal A. M. A.*, Feb. 13, 1932) report a survey that they made of information obtained concerning sixty-seven patients who were given a diagnosis of narcolepsy in the clinic and who had not been treated with ephedrine. The duration of the disorder ranged from one to forty years. No patient had recovered completely. Thirty patients wrote that they had improved. In fourteen instances, however, the improvement was very slight. Twenty-five patients reported that they were the same, and eight that they were worse. Four patients had died. Fifty patients were treated with ephedrine, including those treated by others as well as those treated by the authors. The treatment was a total failure in two instances. Two patients, who at first were improved, no longer appear to receive any effect from the drug. Eight patients have been moderately improved symptomatically. Seventeen patients have made marked symptomatic improvement, and twenty have been completely relieved symptomatically. In the two groups mentioned in the preceding sentence, symptomatic relief continues as follows: in four patients after nine months, in two after eight months, in two patients after five months, in three patients after four months, in six after three months, and in four after two months.

OSTEOLOGIC NOTE

Woman (entering a circus and seeing a skull): "Whose skull is that?"

Mr. Barnum: "That is Cromwell's skull."

Woman: "That cannot be; I saw Cromwell's skull in England, and it was much larger than that."

Mr. Barnum: "Well, this is Cromwell's skull when he was a boy."

The average physician's share of the national income is $5,059. The average surgeon gets a considerably bigger cut, they say.—*New York Times.*

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PROSTATIC HYPERTROPHY IN A MAN OF 94

It seems incredible that suprapubic prostatectomy sould be followed by such beneficial results in a man 94 years old. Yet, Dr. Zigler (*Med. Rev. of Rev.*, July, 1931) operated on such a patient with prostatic hypertrophy, who complained of nocturia and retention of urine, after other physicians had considered him a poor risk.

Examination showed the patient to be in good general condition—he was quite strong, his tongue was moist, there was no uremic odor from his breath and his blood chemistry was normal. For 30 days, the patient was allowed to walk around the ward; during this period his bladder was frequently washed.

A week after operation the patient was in good general condition, with a clean wound and no hiccoughing. Less than a month after prostatectomy the patient began to void through the urethra.

PEPTIC ULCER PATIENTS ARE HIGH-STRUNG

Temperament as a large factor in ulcer of the stomach was discussed by Dr. Witten B. Russ of San Antonio, at the meeting of the American Medical Association at Philadelphia.

"Peptic ulcer patients are born and not made," Dr. Russ declared.

Patients who suffer from this condition are always a distinct type with high-strung, sensitive nervous systems, emotional temperaments and certain physical peculiarities.

The origin and behavior of chronic peptic ulcer are still largely mysterious, but experience and common sense show that they are in some way connected with the patient's nervous organization and physical make-up, Dr. Russ said.

Results of treatment of this disease show clearly the close relationship between it and the nervous system. He cited the frequently met case of a patient with peptic ulcer who gets no relief from different kinds of treatment, but recovers suddenly and completely, as if by magic, when something occurs to make him happy. Such occurences may be a change of residence or occupation that brings happiness and contentment.

In clinics in the South and West, where patients came from small towns and rural communities, treatment is followed by better results than in large clinics in New York City, Dr. Russ pointed out. He explained this on the ground that the city patients are strikingly alike in their physical and emotional make-up. It is these factors and the environments in which they live that predisposes them to chronic peptic ulcer and is responsible for the poor results of treatment, he thought.—*Science News-Letter.*

THE TREATMENT OF RHEUMATIC DISEASES.—A. Zimmer. (*Fortschrit. Therap.*, 5:545, 1929.)

Ovarian, thyroid and pituitary are pre-eminently the glands the disturbances of which can definitely be associated with the cause of rheumatic diseases. Obesity is closely allied therewith. Hormonal therapy in disturbances of internal secretion is not to be regarded as a substitution therapy, but as a causal treatment, for it has been shown that there is involved here not a substitution alone, but a definite length of treatment in order to obtain a restoration of the equilibrium of the internal secretion function.

ALL WORK, NO PLAY

Dibbs: "Have you seen one of those instruments which can tell when a man is lying?"

Higgs: "Seen one? I married one!"—C. C. N. Y. Mercury.

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TO LISTEN ONLY

Reveler (to policeman): "Offisher, I'm going to a lecture an' thish is the addresh. Show me the way, will you?"

Policeman: "This is a visiting card."

Reveler: "Yesh, it's mine."

Policeman: "But you're going to hear a lecture, sir?"

Reveler: "Thash ri', offisher."—Tit-Bits.

Speaking of plastic surgery, isn't there some way to transfer bone from a statesman's head to his back? —*Brooklyn Times.*

NOT HER!

"Did my wife speak at the meeting yesterday?"

"I don't know your wife, but there was a tall, thin woman who rose and said she could not find words to express her feelings."

That wasn't my wife!

The day will come when organized groups no longer will control and conduct the government, when once more the Voice of the People will be heard and that voice will sound the knell of such groups.—Senator James A. Reed of Missouri in the Senate, Feb. 16, 1929.

The New York Academy of Medicine

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